Option Printer

d-Color MF201Plus - MF250 - MF350
d-Color MF550 - MF450

DF-611

SERVICE MANUAL

Code Y107582-9

PUBLICATION ISSUED BY:

Olivetti S.p.A.
77, Via Jervis - 10015 Ivrea (TO)
Italy

Copyright © 2008, Olivetti
All rights reserved

CONTENTS

DF-611

Outline

1. Product specifications 1

Maintenance

2. Periodical check 5
2.1 Maintenance procedure (Periodical check parts) 5
2.1.1 Pick-up roller/feed roller 5
2.1.2 Separation roller 7
2.1.3 Cleaning of the miscellaneous rolls 9
2.1.4 Cleaning of the miscellaneous rollers 11
2.1.5 Cleaning of the scanning guide 13
2.1.6 Cleaning of the reflective sensor section 13
3. Service tool 14
3.1 CE tool list 14
4. Other 15
4.1 Disassembly/Adjustment prohibited items 15
4.2 Disassembly/Assembly/Cleaning list (Other parts) 16
4.2.1 Disassembly/Assembly parts list 16
4.3 Disassembly/Assembly procedure 16
4.3.1 Feed cover 16
4.3.2 Front cover 17
4.3.3 Rear cover 18
4.3.4 Document feed tray front cover 19
4.3.5 Reverse automatic document feeder 19
4.3.6 DF control board 21
4.3.7 Document width detection variable resistor 21
4.3.8 Replacing the stamp unit 24
4.3.9 Replacing the stamp 25

Adjustment/Setting

5. How to use the adjustment section 27
6. Service Mode 28
6.1 Service Mode setting procedure 28
6.2 ADF setting procedure 28

6.2.1 Original Stop Position 28
6.2.2 Registration Loop Adj. 28
6.2.3 Auto Stop Position Adjustment 28
6.2.4 Paper Passage 29
6.2.5 Sensor Check 30
6.2.6 Original Tray Width 32
6.2.7 Read Pos Adj 32
6.2.8 Feed Zoom 32
6.2.9 Scanning Light Adjustment 32
7. Mechanical adjustment 33
7.1 Adjusting the height 33
7.2 Adjusting skew feed 34
7.3 Original Stop Position 36
7.4 Original Tray Width 44
7.5 Read Pos Adj 46
7.6 Feed Zoom 49

Troubleshooting

8. Jam display 53
8.1 Initial check items 53
8.2 Misfeed display 53
8.2.1 Misfeed display resetting procedure 54
8.3 Sensor layout 54
8.4 Solution for d-Color MF350 / MF250 / MF201Plus 55
8.4.1 Turnover section misfeed 55
8.4.2 Paper feed section misfeed 55
8.4.3 Transport section misfeed 56
8.4.4 Paper exit section misfeed 57
8.4.5 Image reading section misfeed 58
8.4.6 Original feeding interval misfeed 59
8.4.7 Remaining paper misfeed 59
8.5 Solution for d-Color MF550 / MF450 60
8.5.1 Turnover section misfeed 60
8.5.2 Paper feed section misfeed 61
8.5.3 Transport section misfeed 62
8.5.4 Paper exit section misfeed 63
8.5.5 Image reading section misfeed 64
8.5.6 Original feeding interval misfeed 65

8.5.7 Remaining paper misfeed 66
9. Trouble code 67
9.1 Trouble code list 67
9.2 Solution for d-Color MF350 / MF250 / MF201Plus 68
9.2.1 C8101: Pressure/retraction mechanism failure before image reading 68
9.2.2 C8102: Pressure/retraction mechanism failure at the turnover section 68
9.2.3 C8103: Lift up mechanism failure 69
9.2.4 C8104: Original glass travel failure 69
9.2.5 C8302: Cooling fan failure 70
9.2.6 CC156: ADF ROM malfunction 70
9.2.7 Incorrect ROM content 70
9.3 Solution for d-Color MF550 / MF450 71
9.3.1 C8101: Pressure/retraction mechanism failure before image reading 71
9.3.2 C8102: Pressure/retraction mechanism failure at the turnover section 71
9.3.3 C8103: Lift up mechanism failure 72
9.3.4 C8104: Original glass travel failure 72
9.3.5 C8302: Cooling fan failure 73
9.3.6 CC156: ADF ROM malfunction 73
9.3.7 Incorrect ROM content 73
10. Set error detection 74

Blank Page

Outline

1. Product specifications

A. Type

Name	Reverse automatic document feeder	
Type	Paper feed section	Paper feed from top of stack
	Image reading section	Sheet-through system
	Turnover section	Switchback system
	Exit section	Straight exit system
Installation	Screw cramp to the main body	
Document alignment	Center	
Document loading	Face up	

B. Functions

Modes	Standard mode / Mixed original detection mode / FAX mode

C. Paper type

Type of document	Standard mode Plain paper	1-sided mode 35 to 210 g/m² (9.25 to 55.75 lb)
		2-sided mode 50 to 128 g/m² (13.25 to 34 lb)
	Mixed original detection mode Plain paper	1-sided / 2-sided mode 50 to 128 g/m² (13.25 to 34 lb)
	FAX mode Plain paper	1-sided mode 35 to 210 g/m² (9.25 to 55.75 lb)
		2-Sided Mode 50 to 128 g/m² (13.25 to 34 lb)
Detectable document size*1	Standard mode/FAX mode	Metric area: B6S to A3 Inch area: 5-$^1/_2$ x 8-$^1/_2$ to 11 x 17
Capacity	100 sheets (80 g/m²) or stack of 14 mm and below	

*1: For the combined original detection mode, refer to the mixed original detection enabled size combination table.

D. Paper feed prohibited originals

- If fed, trouble occurrence will be highly possible.

Type of original	Possible trouble
Sheets stapled or clipped together	Paper feed failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Sheets glued together	Paper feed failure, damaged sheet
Book original	Paper feed failure, damaged sheet
Original weighing less than 35 g/m^2 (9.25 lb) or 210 g/m^2 (55.75 lb) or more	Paper feed failure, transport failure
Sheets folded, torn or wrinkled	Paper feed failure, damaged sheet, transport failure
Sheets severely curled	Sheets misfed due to being dog-eared or fed in askew
OHP film (Transparency film)	Paper feed failure, transport failure
Label paper	Paper feed failure, transport failure
Offset master paper	Paper feed failure, transport failure
Glossy photographic paper or glossy enamel paper	Transport failure, damaged sheet
Sheets clipped or notched	Damaged sheet, transport failure
Sheets patched	Patched part folded or torn sheet

E. Paper feed not guaranteed originals

- If fed, paper feed will be possible to some extent but trouble occurrence will be possible.

Type of Original	Possible Trouble
Sheets lightly curled (Curled amount: 10 to 15 mm)	Dog-eared, exit failure, transport failure
Heat sensitive paper	Edge folded, exit failure, transport failure
Ink jet paper	Paper feed failure, transport failure
Sheets with smooth surface (Coated paper)	Paper feed failure, transport failure
Intermediate paper	Paper feed failure, transport failure
Paper immediately after paper exit from the main unit	Paper feed failure, transport failure
Paper with many punched holes (e.g., loose leaf) limited to vertical feeding	Multi-page feed due to flashes from holes
Sheets with 2 to 4 holes	Transport failure
Sheets two-folded or Z-folded	Transport failure, image deformation
Sheets with rough surface (e.g., letterhead)	Paper feed failure

F. Mixed original feed chart

For metric

	Max. original size	297 mm		257 mm		210 mm		182 mm	148 mm	128 mm
Mixed original size		A3	A4	B4	B5	A4S	A5	B5S	A5S	B6S
297 mm	A3	OK	OK	—	—	—	—	—	—	—
	A4	OK	OK	—	—	—	—	—	—	—
257 mm	B4	OK	OK	OK	OK	—	—	—	—	—
	B5	OK	OK	OK	OK	—	—	—	—	—
210 mm	A4S	OK	OK	OK	OK	OK	OK	—	—	—
	A5	NG	NG	OK	OK	OK	OK	—	—	—
182 mm	B5S	NG	NG	OK	OK	OK	OK	OK	—	—
148 mm	A5S	NG	NG	NG	NG	NG	NG	NG	OK	—
128 mm	B6S	NG	NG	NG	NG	NG	NG	NG	OK	OK

For inch

	Max. original size	11		$8\text{-}^1/_2$			$5\text{-}^1/_2$
Mixed original size		11 x 17	$8\text{-}^1/_2$ x 11	$8\text{-}^1/_2$ x 14	$8\text{-}^1/_2$ x 11S	$5\text{-}^1/_2$ x $8\text{-}^1/_2$	$5\text{-}^1/_2$ x $8\text{-}^1/_2$S
11	11 x 17	OK	OK	—	—	—	—
	$8\text{-}^1/_2$ x 11	OK	OK	—	—	—	—
$8\text{-}^1/_2$	$8\text{-}^1/_2$ x 14	OK	OK	OK	OK	OK	—
	$8\text{-}^1/_2$ x 11S	OK	OK	OK	OK	OK	—
	$5\text{-}^1/_2$ x $8\text{-}^1/_2$	NG	NG	OK	OK	OK	—
$5\text{-}^1/_2$	$5\text{-}^1/_2$ x $8\text{-}^1/_2$S	NG	NG	NG	NG	NG	OK

OK	Mixed original feed available (Tilted with in 1.5% or less)
NG	No. mixed original feed
—	Can not set original

G. Machine specifications

Power requirements	DC 24 V (supplied from the main unit)
	DC 5 V (generated within the DF-611)
Max. power consumption	60 W or less
Dimensions	618 mm (W) x 575 mm (D) x 130 mm (H) 24.25 inch (W) x 22.75 inch (D) x 5 inch (H)
Weight	16.1 kg (35.5 lb)

H. Operating environment

Conforms to the operating environment of the main body.

NOTE

- **These specifications are subject to change without notice.**

Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

- **The alcohol described in the cleaning procedure of maintenance represents the isopropyl alcohol.**

2.1.1 Pick-up roller/feed roller

A. Periodically cleaning parts/cycle

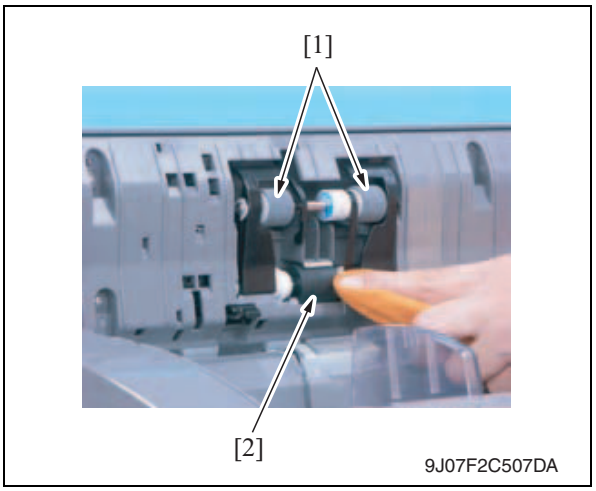
- Pick-up roller: Every 50,000 prints
- Feed roller: Every 50,000 prints

B. Periodically replaced parts/cycle

- Pick-up roller: Every 200,000 prints
- Feed roller: Every 200,000 prints

C. Cleaning procedure

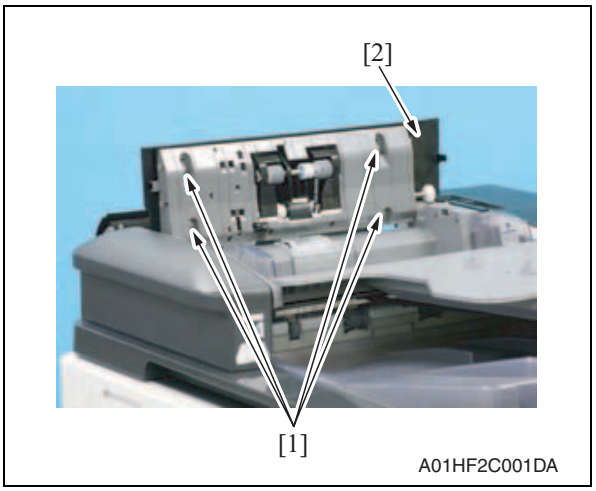
1. Open the feed cover.
See P.16



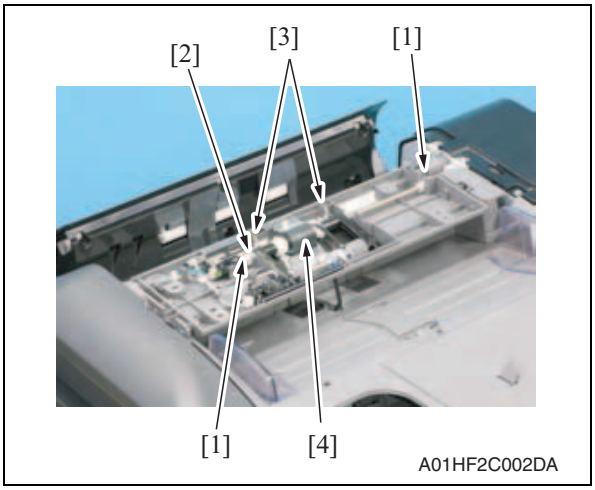
2. Wet a cloth with alcohol, and use it to wipe up the pick-up roller [1] and feed roller [2].

D. Replacing procedure

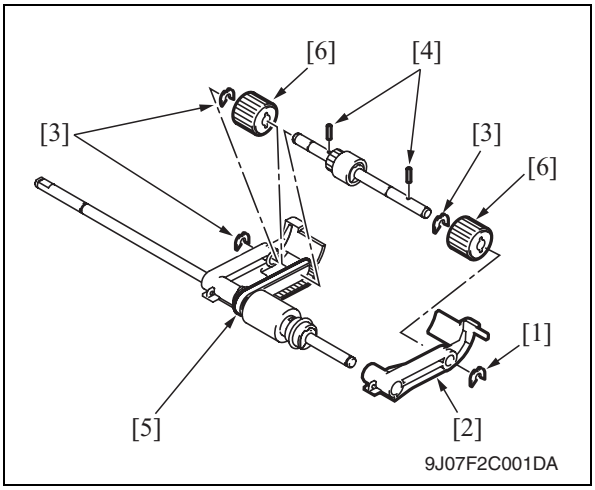
1. Open the feed cover.
See P.16



2. Remove four screws [1] and remove the cover [2].



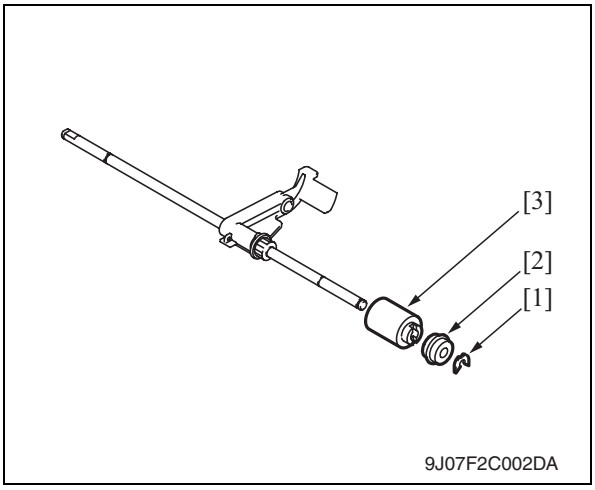
3. Remove two C-clips [1], the bearing [2] and two springs [3] and remove the pick-up/feed roller assy [4].



4. Remove the C-ring [1] and the lever [2].
5. Remove three C-rings [3].
6. Remove two pins [4].
7. Remove the belt [5].
8. Remove two pick-up rollers [6].

NOTE

- **Be careful not to lose the pin.**



9. Remove the C-ring [1] and the bushing [2].
10. Remove the feed roller [3].

2.1.2 Separation roller

A. Periodically cleaning parts/cycle

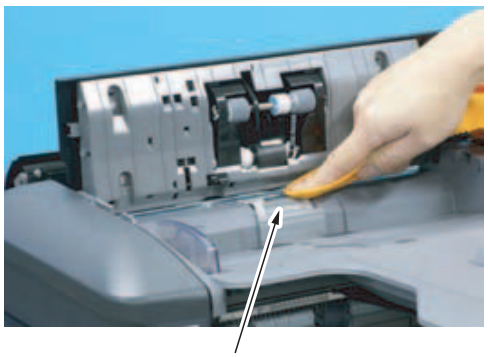
- Separation roller: Every 50,000 prints

B. Periodically replaced parts/cycle

- Separation roller: Every 200,000 prints

C. Cleaning procedure

1. Open the feed cover.
See P.16

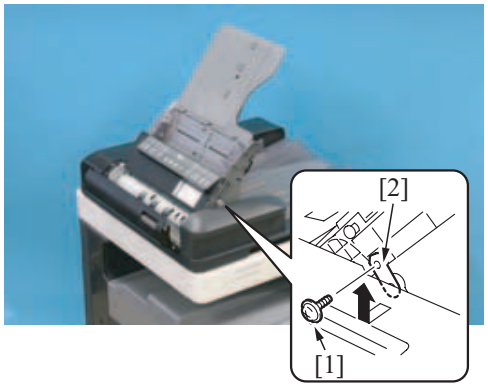


A01HF2C003DA

2. Wet a cloth with alcohol, and use it to wipe up the separation roller [1].

D. Replacing procedure

1. Open the transportation cover.
2. Lift up the document feed tray.

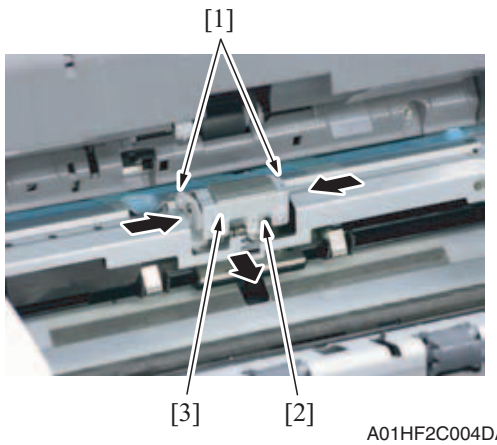


A01HF2C018DA

3. Remove the screw [1] and the mounting plate [2].

NOTE

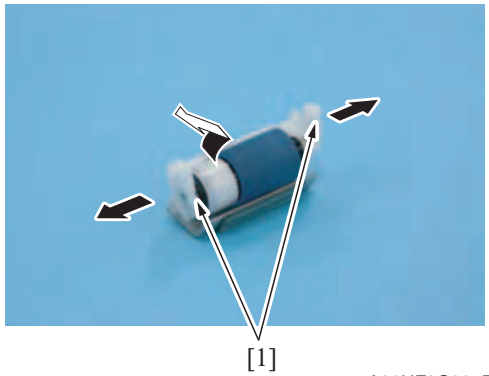
- **Be sure to hold the document feed tray to prevent the tray from falling down while removing the mounting plate.**



4. Hold the two sides [1] between your fingertips to unhook the spring [2] and remove the separation roller assy [3].

NOTE

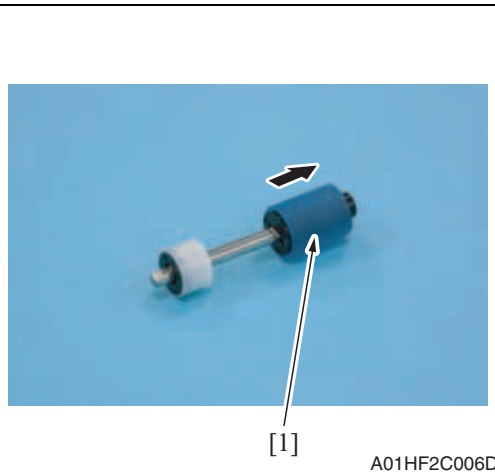
- **When reinstalling the separation roller assy, be sure to hook the spring onto the assy.**



5. While opening up the holder [1], remove the shaft.

NOTE

- **Opening the holder too much can break the holder.**



6. Remove the separation roller [1] from the shaft.

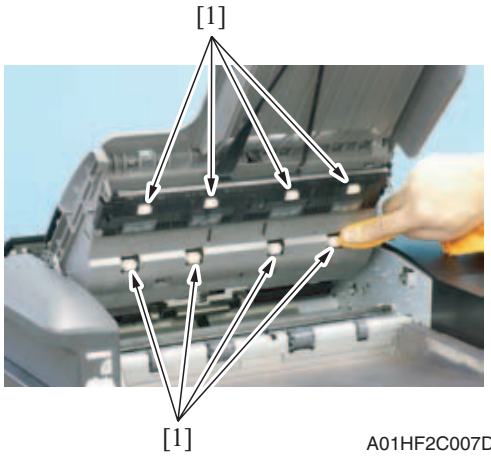
2.1.3 Cleaning of the miscellaneous rolls

A. Periodically cleaning parts/cycle

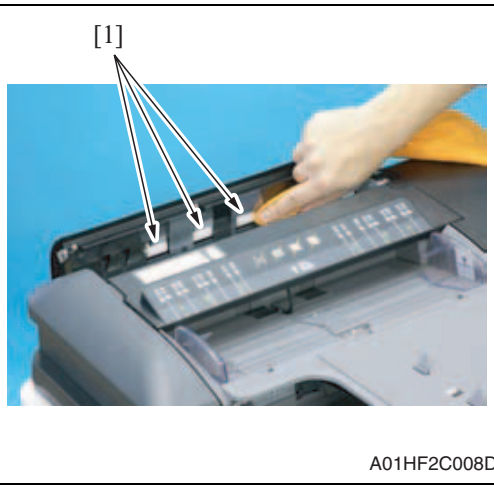
- Miscellaneous rolls: Every 50,000 prints

B. Cleaning procedure

1. Lift up the document feed tray.

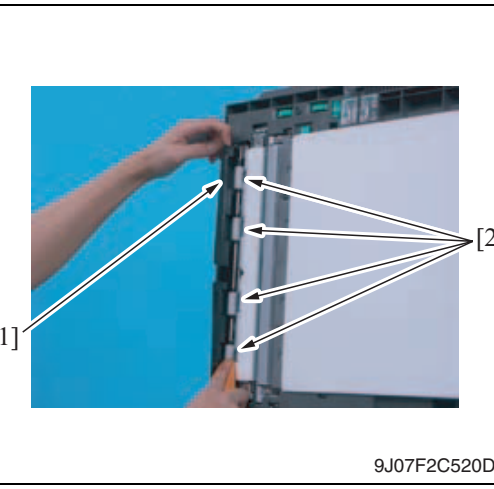


2. Using a soft cloth dampened with alcohol, wipe the roll [1].



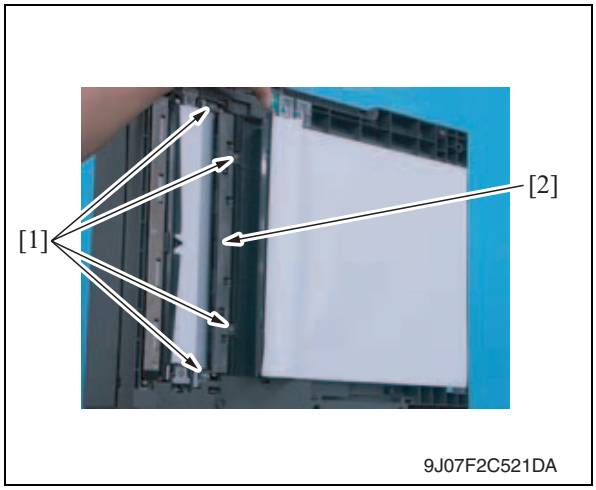
3. Open the transportation cover.

4. Using a soft cloth dampened with alcohol, wipe the roll [1].

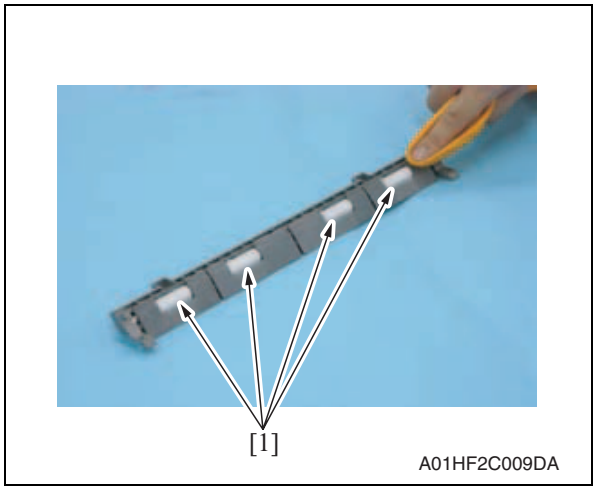


5. Open the reverse automatic document feeder.

6. While opening the before scanning mylar assy [1], wipe the roll [2] using a soft cloth dampened with alcohol.



7. While opening the processing guide, remove four screws [1] and remove the transport roll assy [2].



8. Using a soft cloth dampened with alcohol, wipe the roll [1].

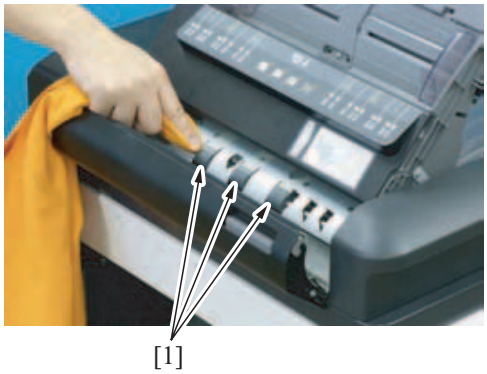
2.1.4 Cleaning of the miscellaneous rollers

A. Periodically cleaning parts/cycle

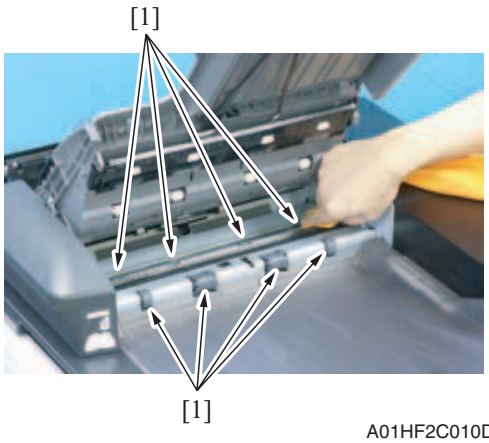
- Miscellaneous rollers: Every 50,000 prints

B. Cleaning procedure

1. Open the transportation cover.

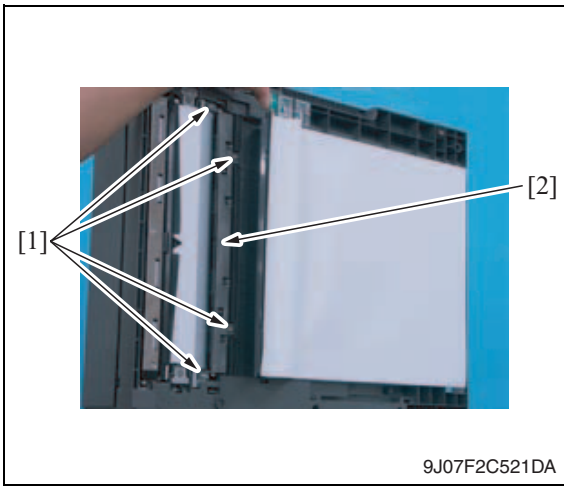


2. Using a soft cloth dampened with alcohol, wipe the roller [1].

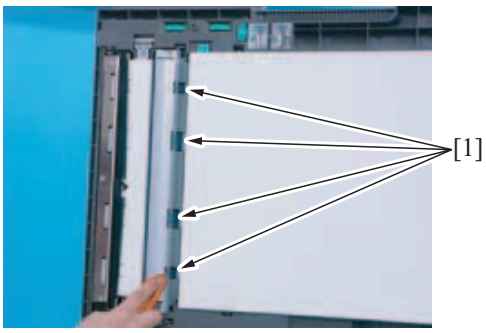


3. Lift up the document feed tray.

4. Using a soft cloth dampened with alcohol, wipe the roller [1].

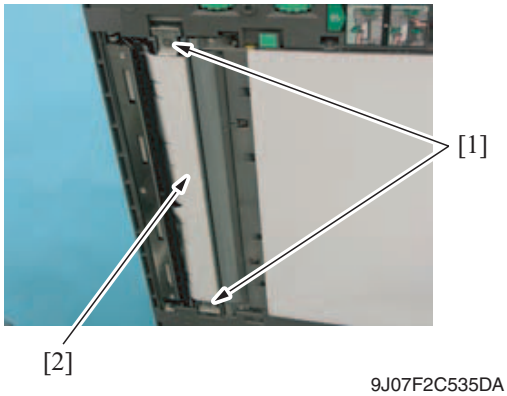


5. While opening the processing guide, remove four screws [1] and remove the transport roll assy [2].



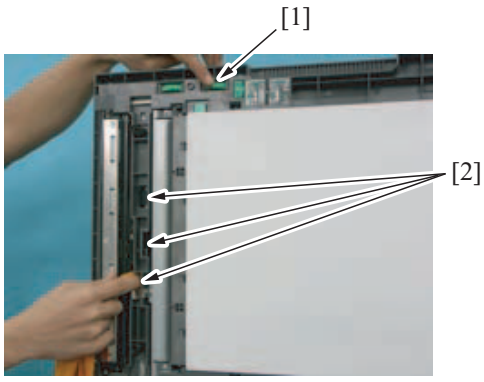
9J07F2C524DA

6. Using a soft cloth dampened with alcohol, wipe the roller [1].



9J07F2C535DA

7. Remove two shoulder screws [1] and remove the scanning guide [2].



9J07F2C537DA

8. While turning processing knob [1], wipe the roller [2] using a soft cloth dampened with alcohol.

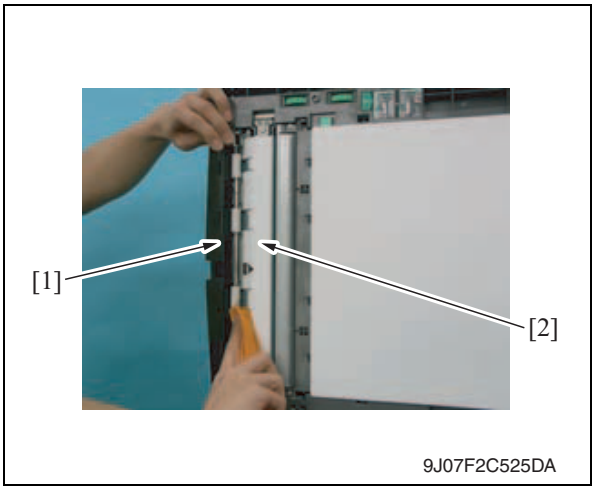
2.1.5 Cleaning of the scanning guide

A. Periodically cleaning parts/cycle

- Scanning guide: Every 50,000 prints

B. Cleaning procedure

1. Open the reverse automatic document feeder.



2. Open the before scanning mylar assy [1].
3. Using a soft cloth dampened with alcohol, wipe the scanning guide [2] clean of dirt.

NOTE

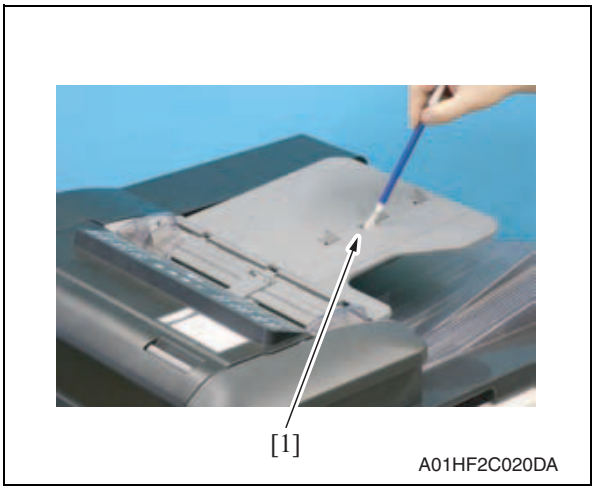
- **Be careful not to damage the mylar.**

2.1.6 Cleaning of the reflective sensor section

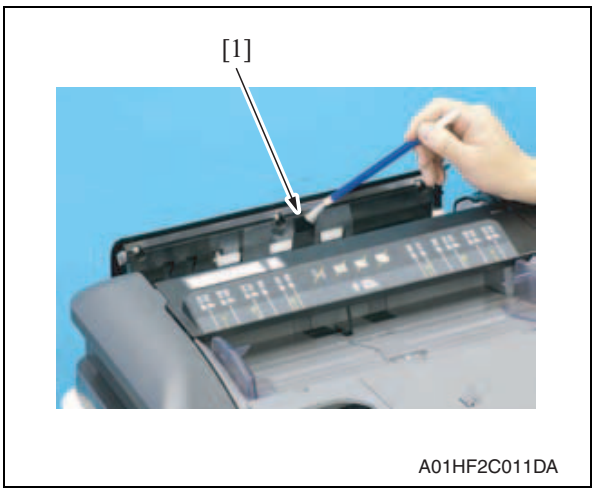
A. Periodically cleaning parts/cycle

- Reflective sensor section: Every 50,000 prints

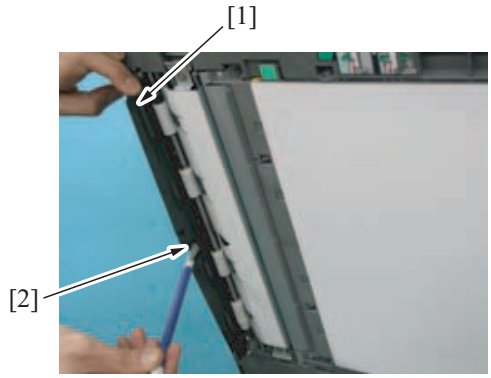
B. Cleaning procedure



1. Clean the sensor [1] using a brush or other similar tools.



2. Open the transportation cover.
3. Clean the cloth [1] using a brush or other similar tools.

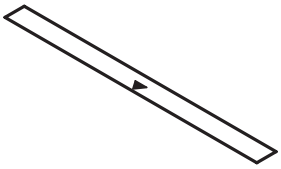


9J07F2C539DA

4. Open the reverse automatic document feeder.
5. While opening the before scanning mylar assy [1], clean the cloth [2] using a brush or other similar tools.

3. Service tool

3.1 CE tool list

Tool name	Shape	Personnel	Parts No.	Remarks
ADF reading chart	 9J07F2C003DA	1	AVGR04762A	

4. Other

4.1 Disassembly/Adjustment prohibited items

A. Paint-locked screws

NOTE

- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE

- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE

- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION

- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

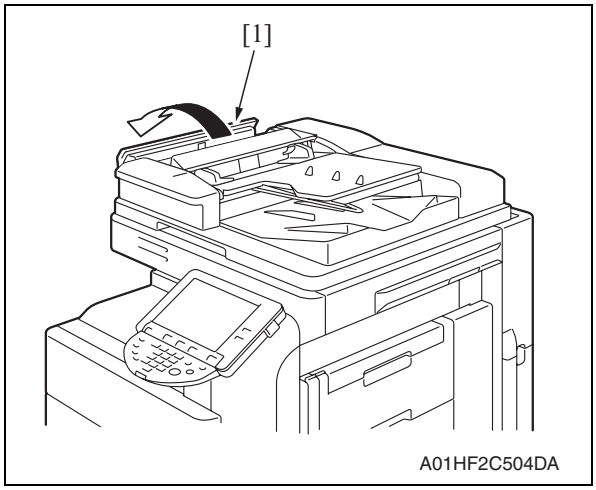
4.2 Disassembly/Assembly/Cleaning list (Other parts)

4.2.1 Disassembly/Assembly parts list

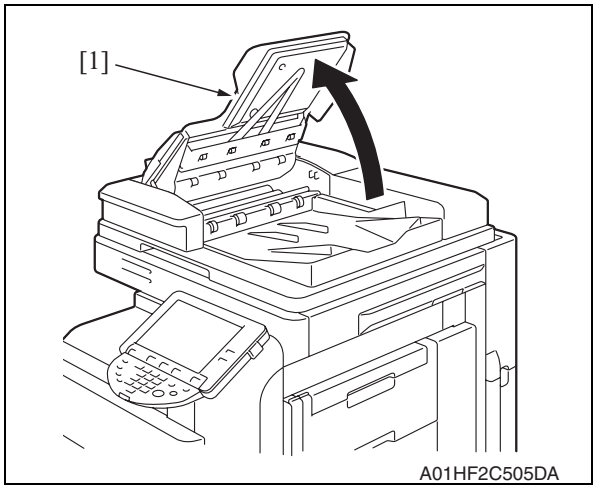
No.	Section	Part name	Ref. page
1	Exterior parts	Feed cover	P.16
2		Front cover	P.17
3		Rear cover	P.18
4		Document feed tray front cover	P.19
5	Unit	Reverse automatic document feeder	P.19
6	Board and etc.	DF control board	P.21
7		Document width detection variable resistor	P.21
8	Others	Stamp unit	P.24
9		Stamp	P.25

4.3 Disassembly/Assembly procedure

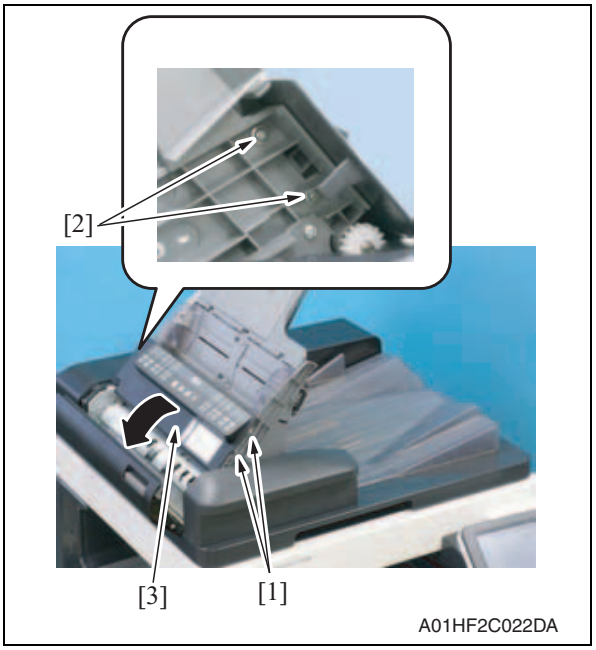
4.3.1 Feed cover



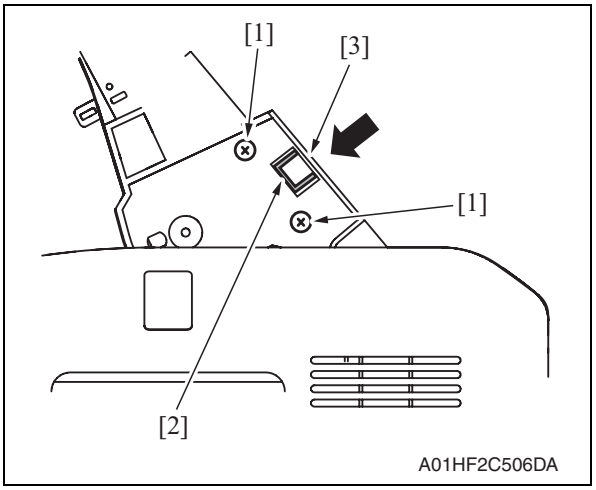
1. Open the transportation cover [1].



2. Lift up the document feed tray [1].



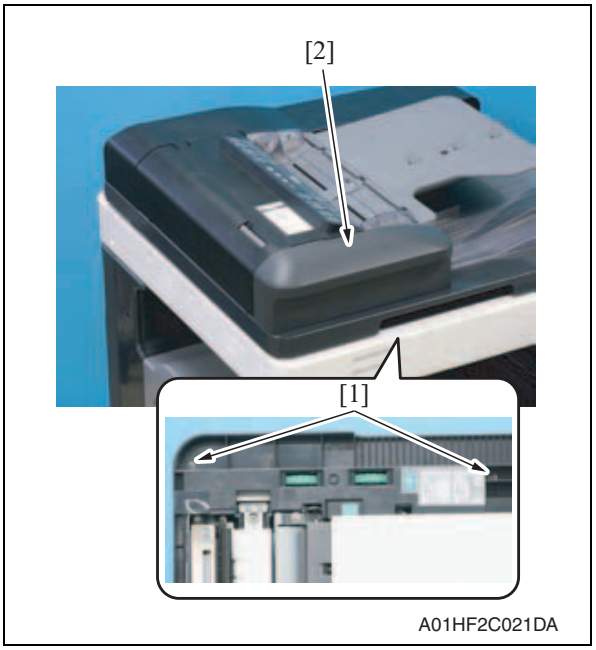
3. Remove two shoulder screws [1] and two screws [2].
4. Open the feed cover [3].



NOTE

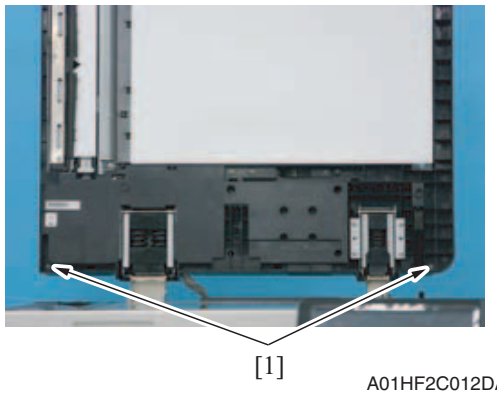
- **In the reinstallation steps, when tightening two screws [1], press the feed cover [3] in the direction of the arrow so as not to leave a clearance between the top of the protrusion from the surface of the feed cover and the bottom of the indentation [2].**

4.3.2 Front cover



1. Open the reverse automatic document feeder.
2. Remove two screws [1] and remove the front cover [2].

4.3.3 Rear cover



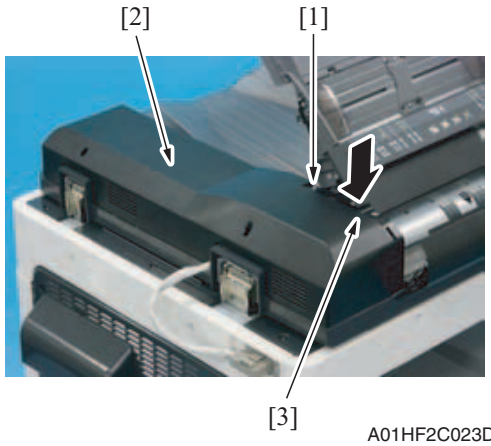
1. Open the reverse automatic document feeder.

NOTE

- **If the reverse automatic document feeder is set to be lifted up at angles up to 60 degrees due to the set position of the stopper for the hinge, change the set position to the lower side so that the reverse automatic document feeder can be opened completely.**

2. Remove two screws [1].

3. Open the transportation cover.
4. Lift up the document feed tray.



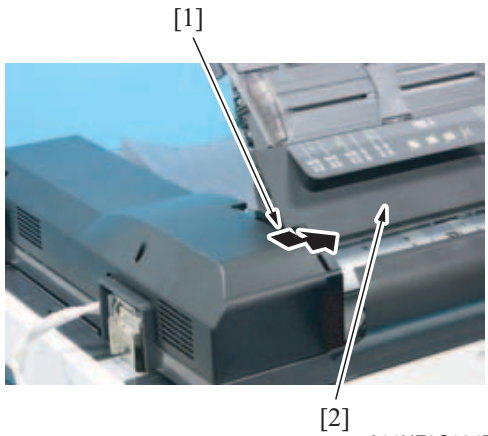
5. Remove the screw [1] and remove the rear cover [2].

NOTE

- **Be sure to press down part [3] in the picture to prevent any damage when removing the rear cover.**

A. Reinstallation procedure

1. Open the transportation cover.
2. Lift up the document feed tray.



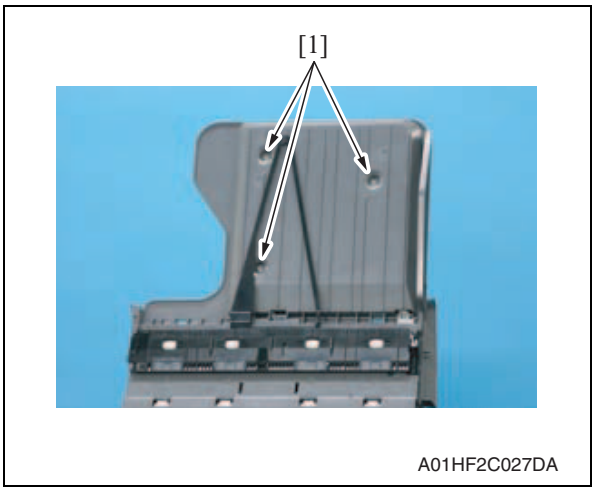
3. Press down part [1] in the picture until it slides under the feed cover [2].

NOTE

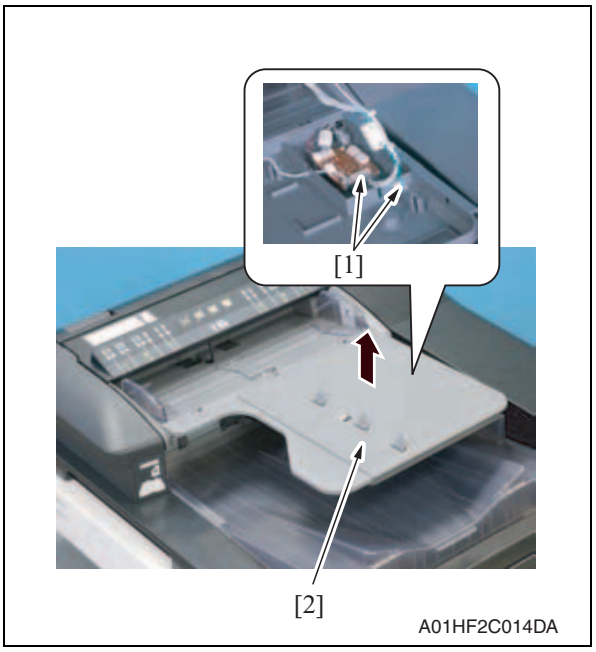
- **Be careful not to damage the rear cover.**

4. Install the rear cover tightening three screws.

4.3.4 Document feed tray front cover

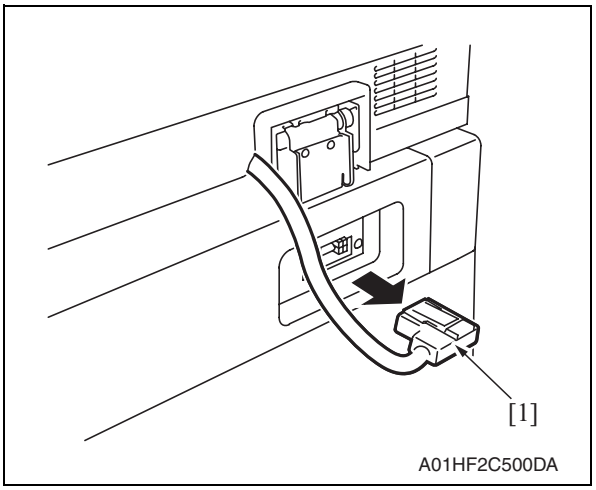


1. Lift up the document feed tray.
2. Remove three screws [1].

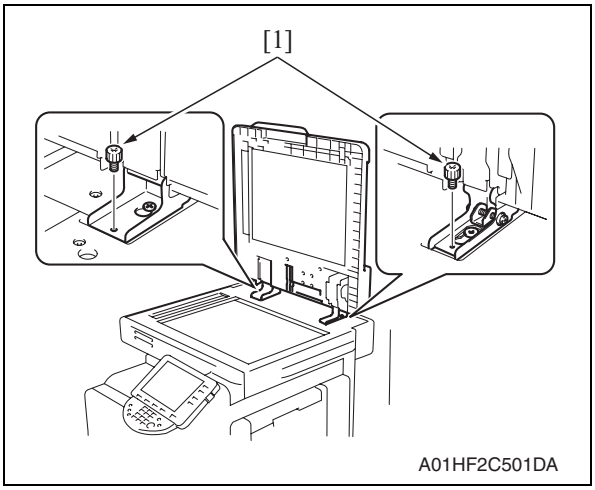


3. Disconnect two connectors [1] and remove the document feed tray front cover [2].

4.3.5 Reverse automatic document feeder



1. Disconnect the connector [1] of the reverse automatic document feeder from the main body.

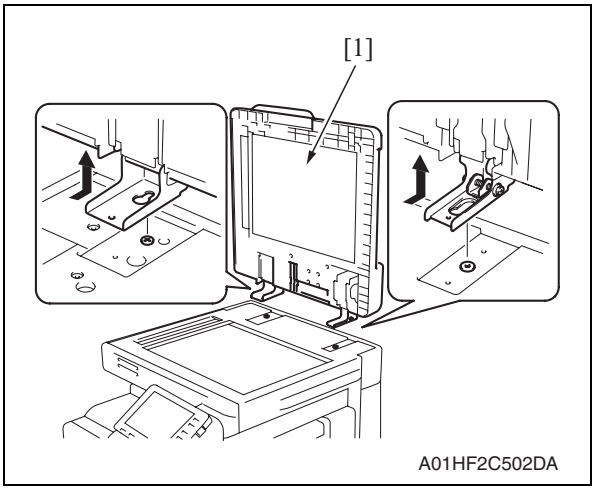


2. Open the reverse automatic document feeder.

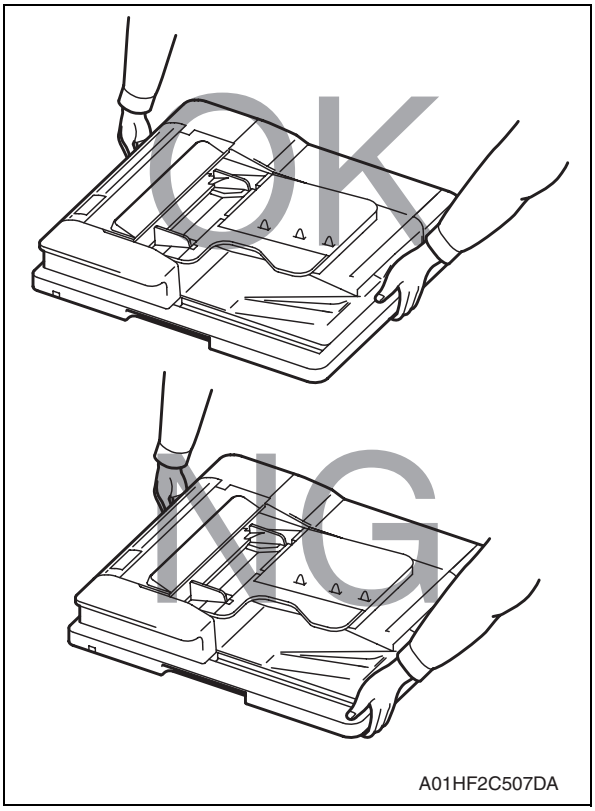
NOTE

- **If the reverse automatic document feeder is set to be lifted up at angles up to 60 degrees due to the set position of the stopper for the hinge, change the set position to the lower side so that the reverse automatic document feeder can be opened completely.**

3. Remove two screws [1].



4. Remove the reverse automatic document feeder [1].

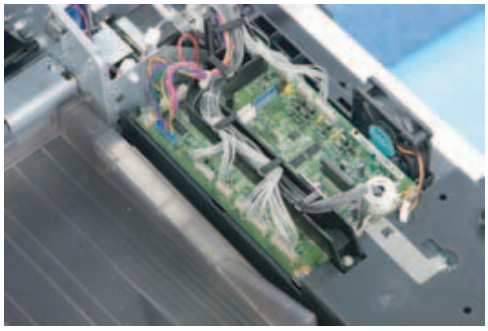


NOTE

- **When carrying the reverse automatic document feeder, be sure to hold onto the specified positions. The feeder main body can be distorted if held at inappropriate positions.**

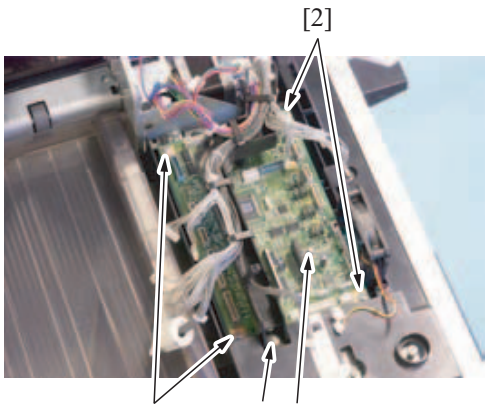
4.3.6 DF control board

1. Remove the rear cover.
See P.18



A01HF2C025DA

2. Disconnect all the fifteen connectors from the DF control board.



A01HF2C026DA

3. Remove the screw [1].
4. Remove four screws [2] and remove the DF control board [3].

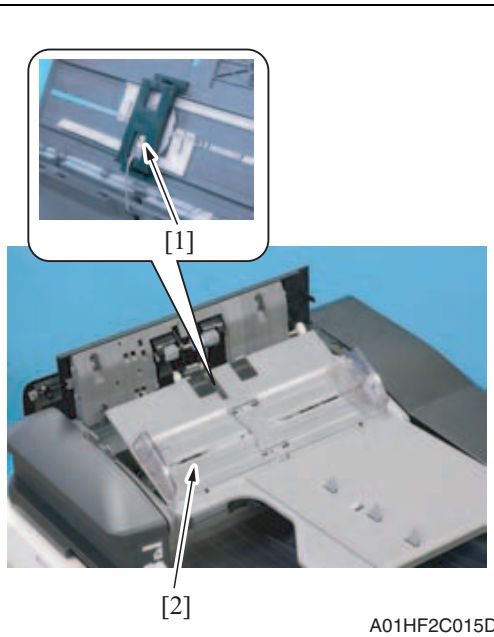
NOTE

- **Be sure to perform the following operation when the DF control board is replaced.**

5. Replace the EEPROM.
6. Upgrade the firmware.
See P.48 of the main body service manual.

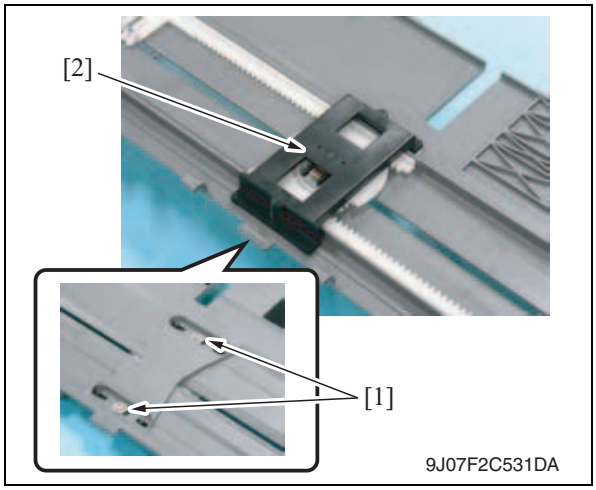
4.3.7 Document width detection variable resistor

1. Open the feed cover.
See P.16



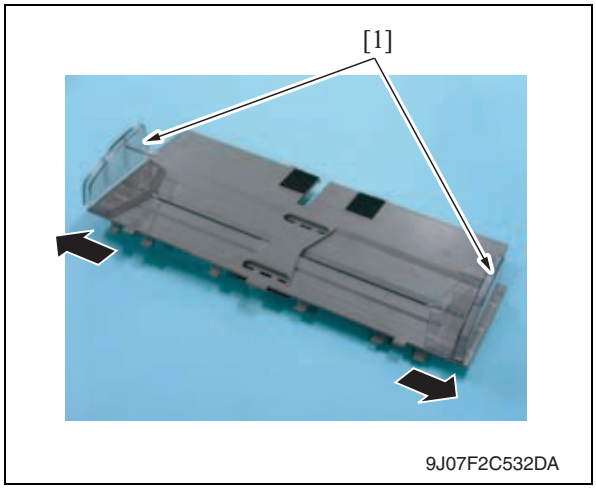
A01HF2C015DA

2. Disconnect the connector [1] and remove the document width detection variable resistor cover [2].

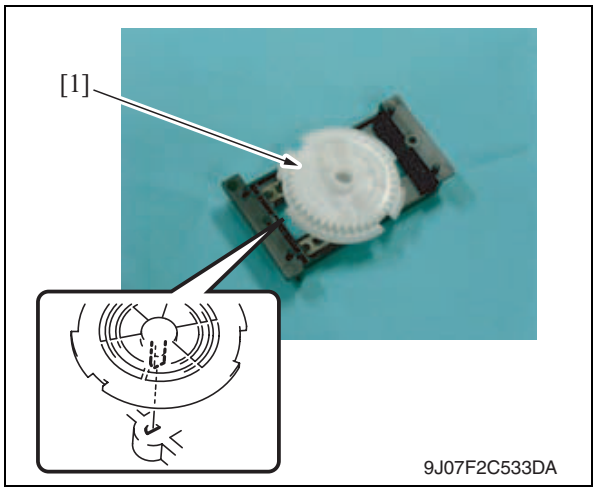


3. Remove two screws [1] and remove the document width detection variable resistor [2].

A. Reinstallation procedure



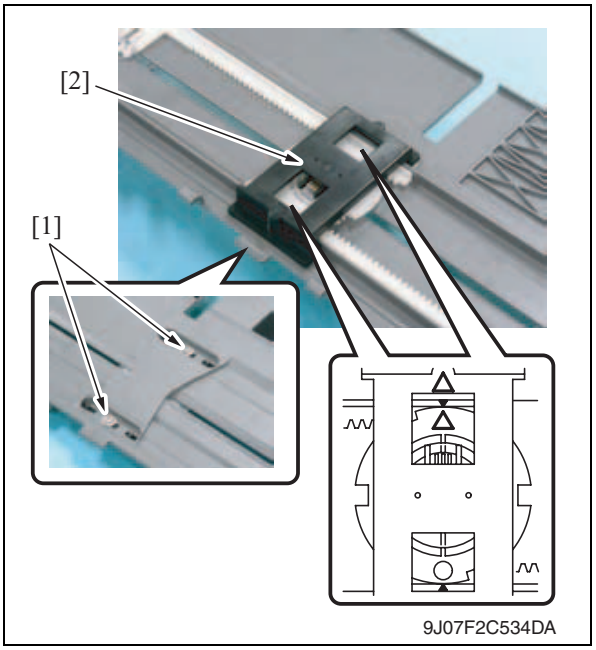
1. Open the side edge stop [1] of the original feed tray.



2. Reinstall the gear [1].

NOTE

- **Note the mounting position of the gear and the document width detection variable resistor.**



3. Use two screws [1] to install the document width detection variable resistor [2].

NOTE

- **Install the gear and rack gear by aligning the arrows.**

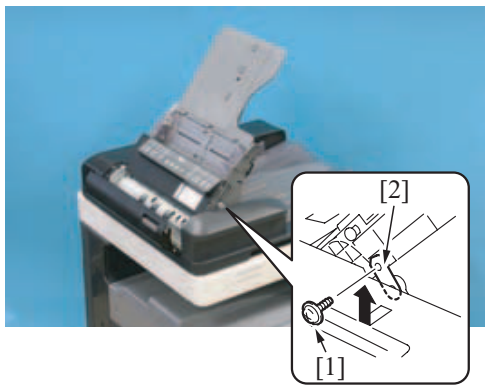
4. Connect the connector.
5. Install the document width detection variable resistor cover and turn on the main power switch.

NOTE

- **Be sure to perform the following operation when the document width detection variable resistor is replaced.**

6. Perform document width detection adjustment.
See P.32
7. Turn OFF the main power switch and turn it ON again and check whether size detection operates normally.

4.3.8 Replacing the stamp unit

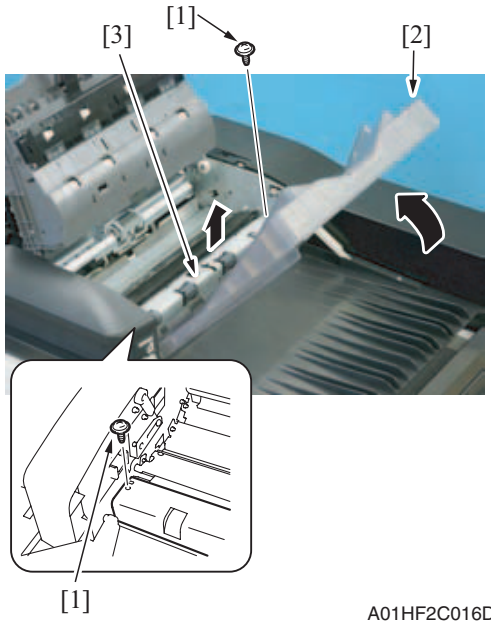


A01HF2C018DA

1. Open the transportation cover.
2. Lift up the document feed tray.
3. Remove the screw [1] and the mounting plate [2].

NOTE

- **Be sure to hold the document feed tray to prevent the tray from falling down while removing the mounting plate.**

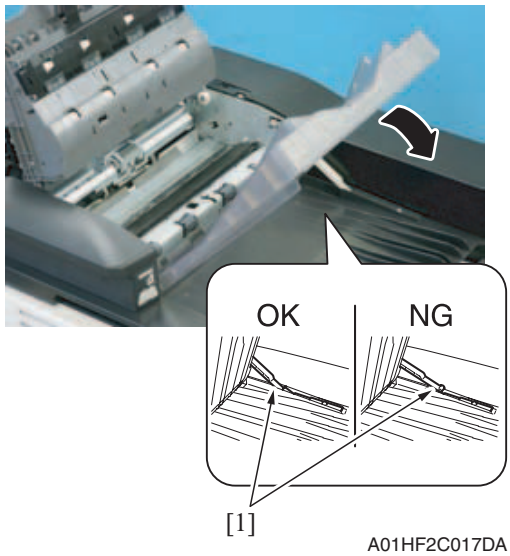


A01HF2C016DA

4. Remove two screws [1] and remove the plate cover [3] while holding up the exit tray [2].

NOTE

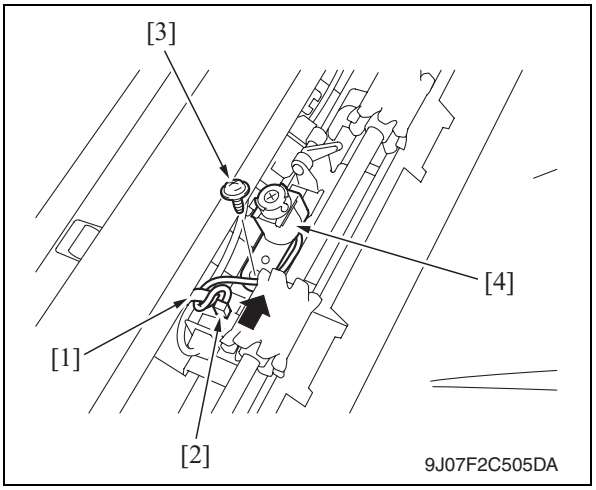
- **Take care not to raise the exit tray too much. The stopper may come off.**



A01HF2C017DA

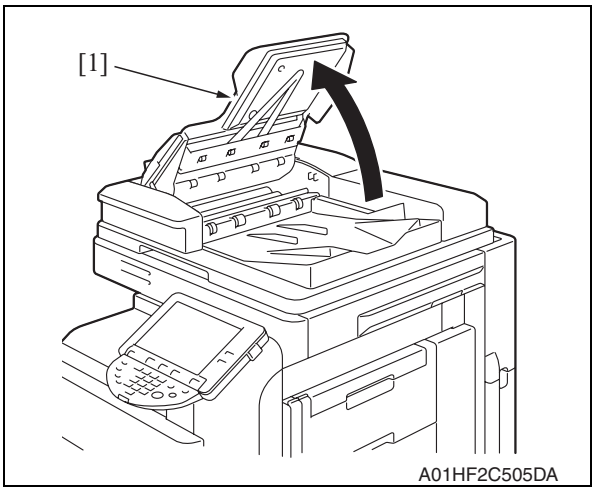
NOTE

- **When lowering the exit tray, check that the stopper [1] fits under the plate spring.**

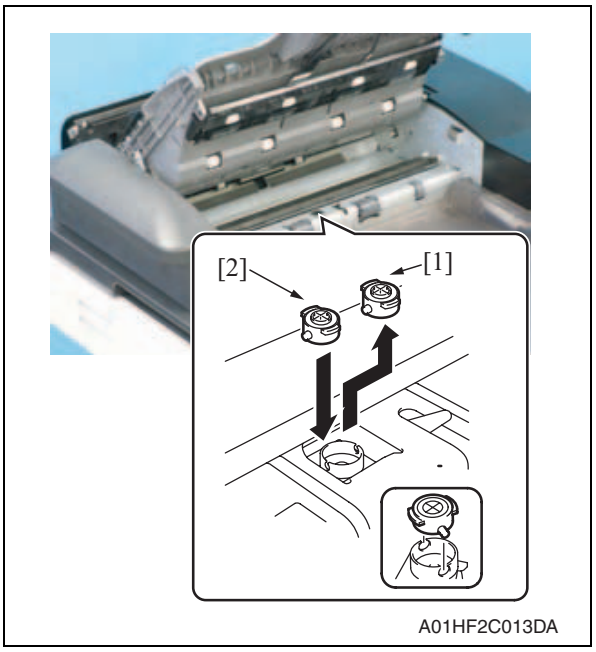


5. Remove the cord clamp [1] and disconnect the connector [2].
6. Remove the screw [3] and remove the stamp unit [4].

4.3.9 Replacing the stamp



1. Lift up the document feed tray [1].



2. Remove the used stamp [1] and install the new stamp of replacement [2].

NOTE

- **Align the round pin of the stamp with the slit in the stamp unit side.**

Blank Page

Adjustment/Setting

5. How to use the adjustment section

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

Advance checks

Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

6. Service Mode

6.1 Service Mode setting procedure

See P.338 of the main body service manual.

6.2 ADF setting procedure

6.2.1 Original Stop Position

Functions	• To manually adjust the original stop position and the read position in each of the ADF modes.
Use	• When the result is Unable in the automatic adjustment of the original stop position.
Setting/ procedure	P.40

6.2.2 Registration Loop Adj.

Functions	• To adjust the length of the loop to be formed in paper before the registration rollers.
Use	• When an original misfeed or skew occurs.
Adjustment instructions	• The loop value increases by the entered + value and decreases by the entered - value.
Adjustment range	• The default setting is 0. • Adjustable range: -5 mm to + 5 mm (in 1-mm increments)
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [ADF]. *3.* Touch [Registration Loop Adj]. *4.* Select either [1-Side] or [Second Side] for the adjustment. *5.* Press the clear key and change the setting value using the 10-key pad. (Press the [+/-] key to change the +/- code.) *6.* Touch [END]. *7.* Touch [Exit] on the Service Mode screen. *8.* Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

6.2.3 Auto Stop Position Adjustment

A. Sub Scanning Direction 1-Side

Functions	• To automatically adjust the read position for the Sub Scanning Direction 1-Side. • To check skew feed.
Use	• When ADF has been replaced.
Setting/ procedure	P.36

B. Sub Scanning Direction 2-Side

Functions	• To automatically adjust the read position for the Sub Scanning Direction 2-Side.
Use	• When ADF has been replaced.
Setting/ procedure	P.38

C. Main Scanning Direction

Functions	• To automatically adjust the read position in the Main Scanning Direction.
Use	• When ADF has been replaced.
Setting/ procedure	P.39

6.2.4 Paper Passage

Functions	• To check for paper passage through the ADF in each of the ADF modes.
Use	• Used for checking the document path for any abnormal condition when a document misfeed occurs.
Setting/ procedure	<Procedure> *1.* Call the Service Mode to the screen. *2.* Touch [ADF]. *3.* Touch [Paper Passage]. *4.* Select a paper passage mode to be tested from [1-Sided No Detect], [1-Sided Mixed Org.], [2-Sided], or [AMS Mixed Org.]. *5.* Set the original in the feed tray. *6.* The Start key color changes from orange to blue. *7.* Press the Start key. The operation starts. **NOTE** **• After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.** **• If the Stop key is pressed during the test operation, the test will be forced to end.** **• If there is no Original set in the feed Tray, the Start key will not work.** **• All Originals set in the feed Tray are passed through. Upon the completion of all Originals passed through, the Paper Through Test ends.**

6.2.5 Sensor Check

Functions	• To check sensors on the paper path.
Use	• When a document misfeed occurs.

A. Check procedure

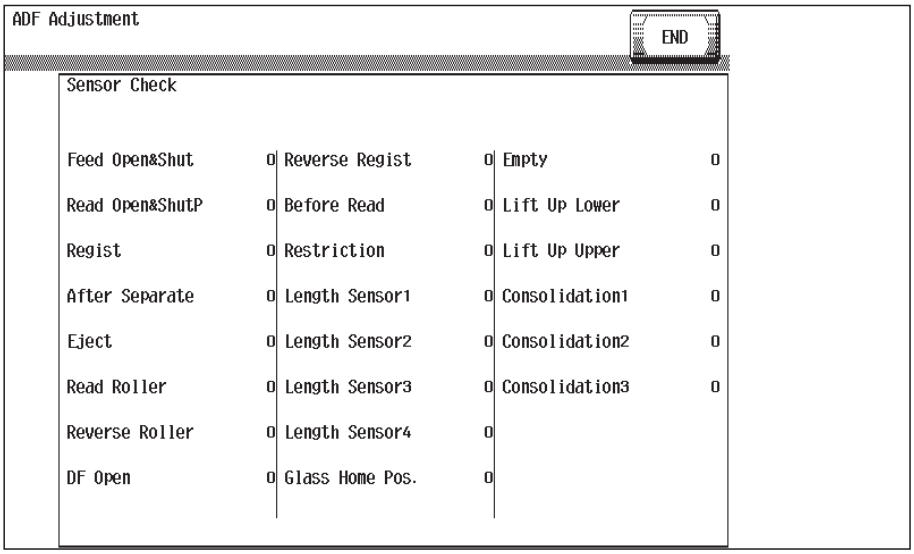
- To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the main unit in the standby state (including a misfeed, malfunction, and closure failure condition).

B. Procedure

1. Call the Service Mode to the screen.
See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Sensor Check].
4. Operate the sensor to check by using paper or the like, and check the screen display. (Paper detected: 1, No paper detected: 0)

C. Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



A01HF3E524DA

C. Sensor check list

Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PS1	Feed Open&Close	Feed open/close sensor	Open	Close
PS2	Read Open&Close	Read open/close sensor	Open	Close
PS3	Regist	Registration sensor	Paper present (Blocked)	Paper not present (Unblocked)
PS4	After Separate	After separate sensor	Paper present (Unblocked)	Paper not present (Blocked)
PS5	Eject	Exit sensor	Paper present (Unblocked)	Paper not present (Blocked)
PS6	Read Roller	Read roller sensor	Pressure (Blocked)	Retraction (Unblocked)
PS7	Reverse Roller	Reverse roller sensor	Pressure (Blocked)	Retraction (Unblocked)
RS201	DF Open	Original cover sensor	Open	Close
PS8	Reverse Regist	Reverse registration sensor	Paper present (Blocked)	Paper not present (Unblocked)
PS9	Before Read	Before read sensor	Paper present (Blocked)	Paper not present (Unblocked)
VR1	Restriction Board Position	Document width detection variable resistor	Analog value	
PS10	Length Sensor1	Length sensor1	Paper present	Paper not present
PS11	Length Sensor2	Length sensor2	Blocked	Unblocked
PS12	Length Sensor3	Length sensor3	Paper present	Paper not present
PS13	Length Sensor4	Length sensor4	Paper present	Paper not present
PS203	Glass Home Pos.	Glass home sensor	At home (Unblocked)	Out of home (Blocked)
PS14	Empty	Empty sensor	Paper present	Paper not present
PS16	Lift Up Lower	Lift up lower sensor	Unblocked	Blocked
PS15	Lift Up Upper	Lift up upper sensor	Blocked	Unblocked
PS19	Mixed Sensor1	Mixed sensor1	Paper present	Paper not present
PS18	Mixed Sensor2	Mixed sensor2	Paper present	Paper not present
PS17	Mixed Sensor3	Mixed sensor3	Paper present	Paper not present

6.2.6 Original Tray Width

Functions	• To set the values of maximum (A3 position) and minimum (B6 position) widths on the document width detection variable resistor.
Use	• When an original misfeed occurs. • When an original size detection error occurs.
Setting/ procedure	P.44

6.2.7 Read Pos Adj

Functions	• To adjust the original read position.
Use	• When the first/second carriage, the scanner wire, the scanner assy, the original glass moving unit, and/or the glass step sheet have been replaced.
Setting/ procedure	P.46

6.2.8 Feed Zoom

Functions	• To adjust the feed zoom of ADF in the feeding direction.
Use	• When ADF has been replaced.
Setting/ procedure	P.49

6.2.9 Scanning Light Adjustment

Functions	• To adjust the scanning light of ADF.
Use	• When the original glass moving unit has been replaced. • Used for adjusting the difference in the scanning lights between scanning from the original glass and scanning from the ADF original glass.
Setting/ procedure	• Adjustable range: -2 to + 2 (1 step) *1.* Call the Service Mode to the screen. *2.* Touch [ADF]. *3.* Touch [Scanning Light Adjustment]. *4.* Select a color by pressing [Red], [Green], or [Blue]. *5.* Press the value using the [+]/[-] key. **NOTE** • **It is recommended that the scanning light adjustment should be made by the same steps for all the three colors of red, green, and blue.** *6.* Touch [END]. *7.* Touch [Exit] on the Service Mode screen. *8.* Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

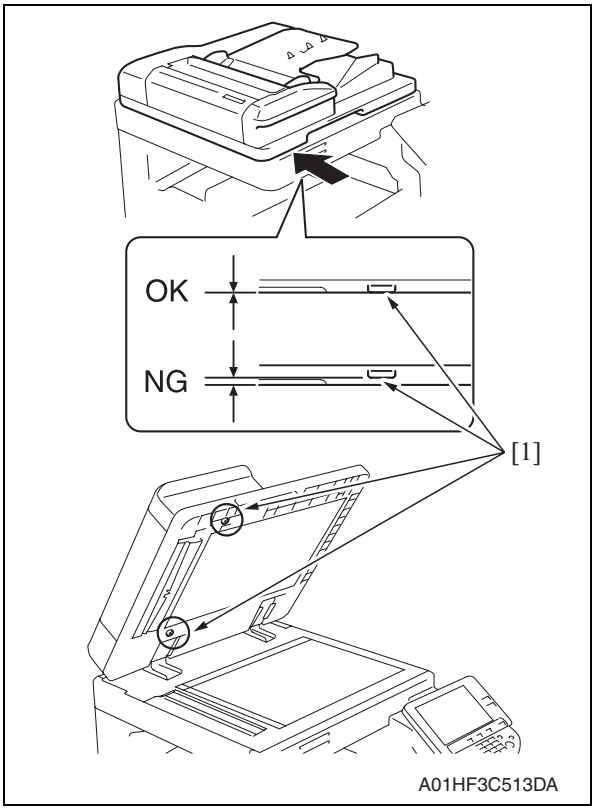
7. Mechanical adjustment

7.1 Adjusting the height

NOTE

Make this adjustment after any of the following procedures has been performed.

- **When the reverse automatic document feeder has been reinstalled.**

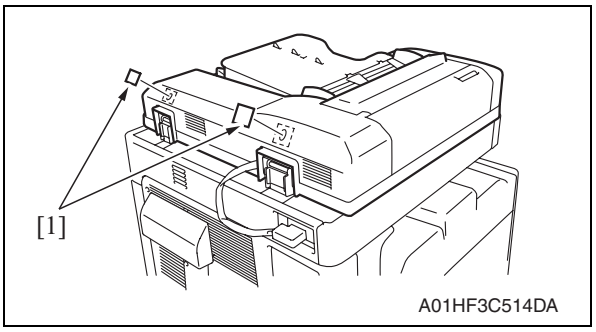


1. Check the clearance between the upper face of scanner and the protrusion [1] on the reverse automatic document feeder side (2 spots, front/back).

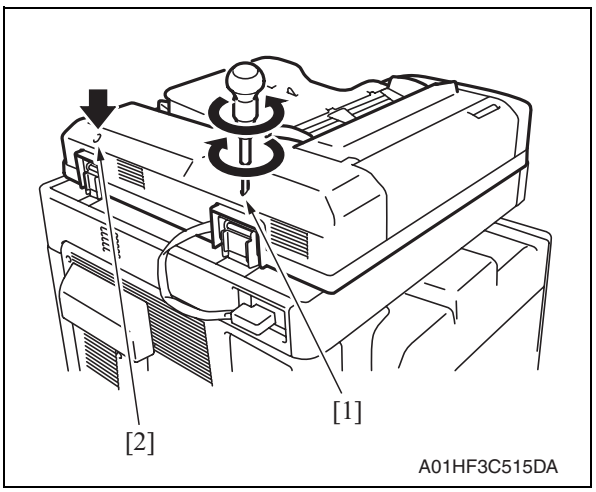
NOTE

- **There must be no clearance between the protrusion [1] on the reverse automatic document feeder and the upper face of scanner.**

2. If there is any clearance, the following adjustment is needed.



3. Remove the label [1].

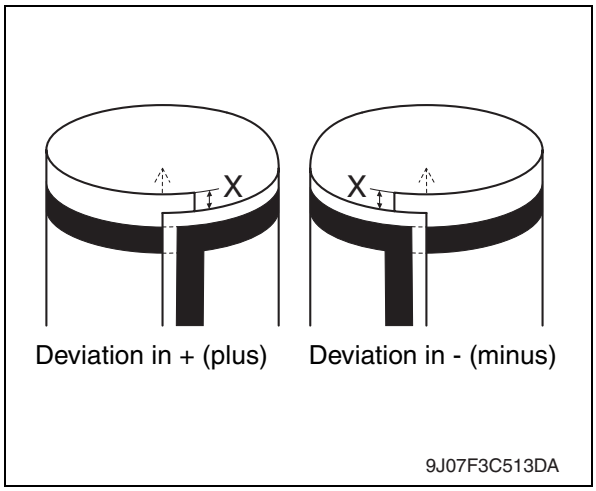


4. Remove the clearance by turning the adjusting screw [1].
Clockwise rotation:
Lifting up the rear side
Counterclockwise rotation:
Lowering the rear side

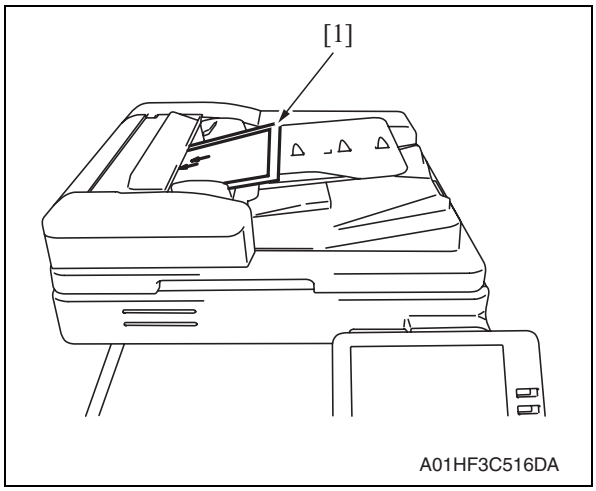
5. Use the adjusting screw [2] when further adjustment is needed.
Clockwise rotation:
Lifting up the rear side
Counterclockwise rotation:
Lowering the rear side

6. Affix again the labels removed in step 3.

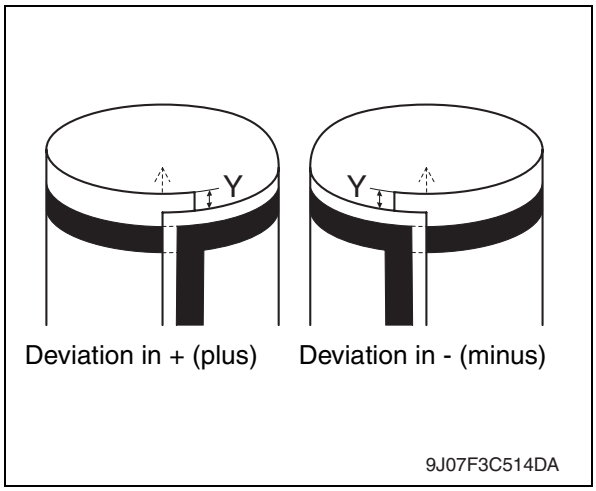
7.2 Adjusting skew feed



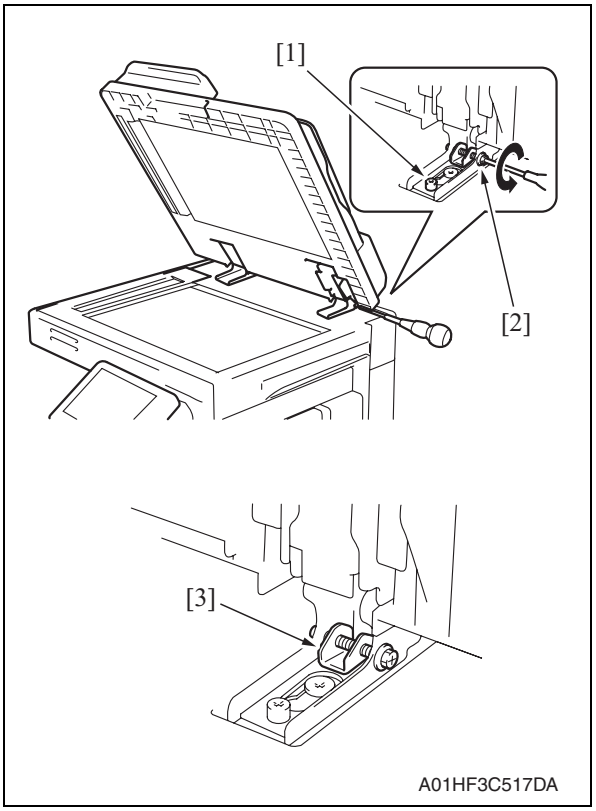
1. Check how the edges of the chart are misaligned.
   The amount of the deviation of the chart will be X.



2. Place the chart [1] in the document feed tray (with the side having an arrow facing up).



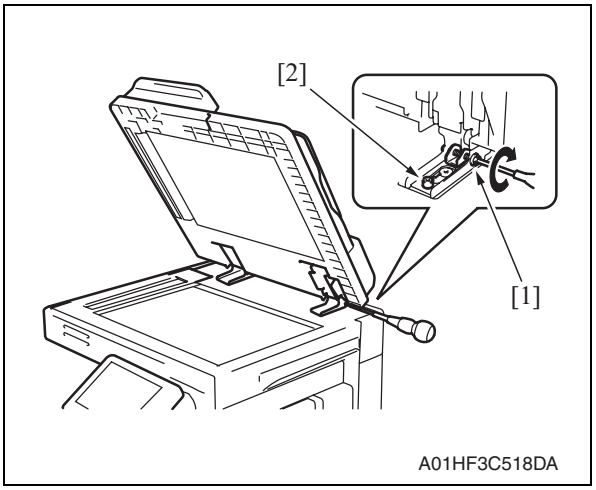
3. Make copies 5 times repeatedly in single side mode.
4. Fold all 5 sample copies as illustrated and check for any deviation.
   Deviation on the sample will be Y.
5. Obtain the difference between the deviation of the chart and the deviation of the sample.
   Difference of the deviation = Y - X
   Specifications: 0 ± 2 mm
6. If the difference of the deviation does not fall within the specified range, perform the following adjustment.



7. Loosen the mounting screw [1] on the right hinge viewed from the front.
8. When the difference of the deviation is + (plus), turn the screw [2] counterclockwise to adjust.

NOTE

- **When turning the screw, be sure not to raise the reverse automatic document feeder until in an upright position.**
- **When the adjusting plate [3] is set far left, do not tighten any further.**
- **To prevent the adjustment screw [2] breakage, be sure to follow the above instructions.**



9. When the difference of the deviation is - (minus), turn the screw [1] clockwise to adjust.
10. After the adjustment is completed, tighten the mounting screw [2] on right side hinge securely with screwdriver.

7.3 Original Stop Position

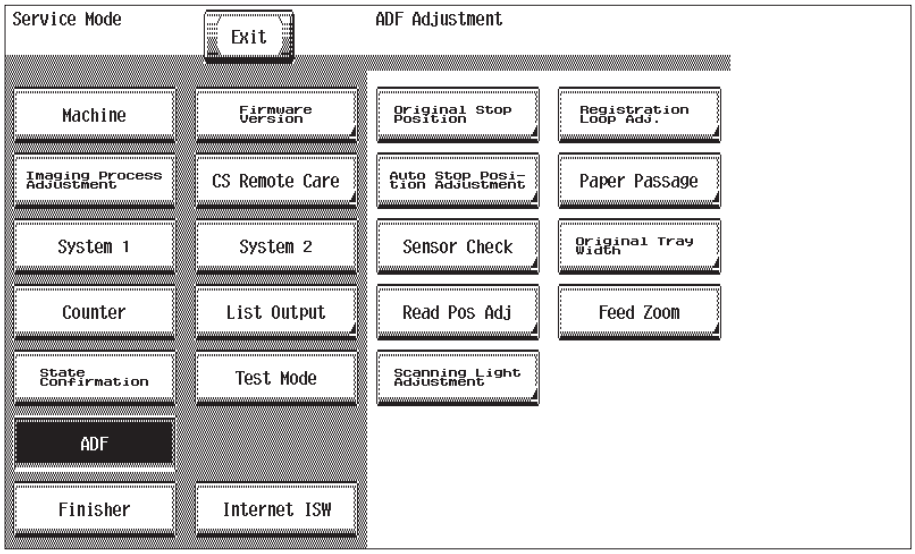
- Adjustment of the document stop position is made automatically and manually (by entering numbers). The following adjustment is made in the Service Mode.

NOTE

- **Before performing this adjustment, the feed zoom adjustment needs to be complete.**
  See P.49

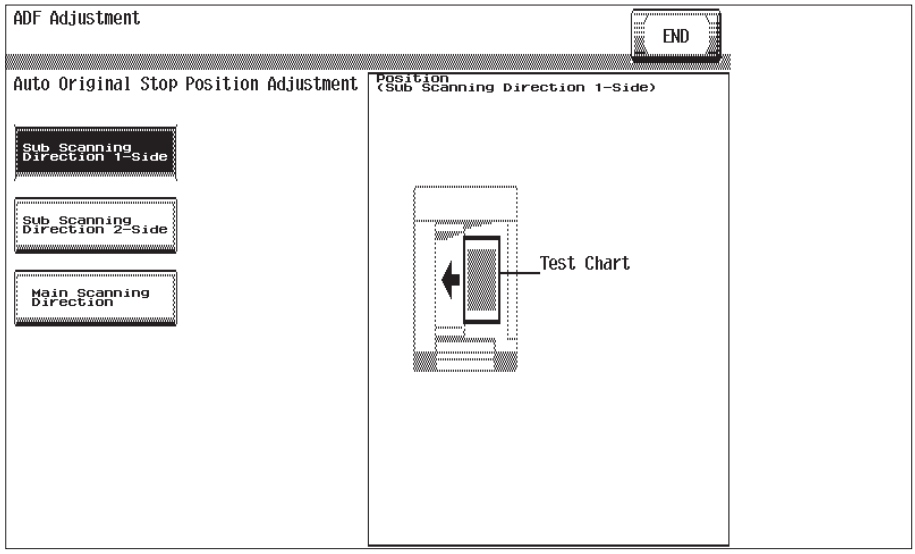
A. Auto adjust: Sub Scanning Direction 1-Side Stop Position

1. Call the Service Mode to the screen.
   See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].

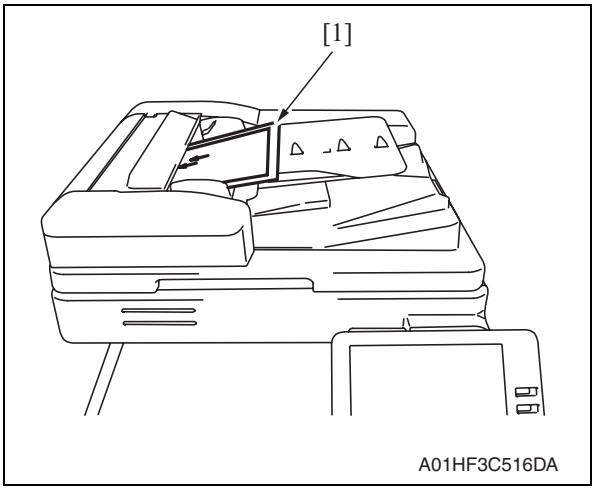


A01HF3E525DA

4. Touch [Sub Scanning Direction 1-Side].

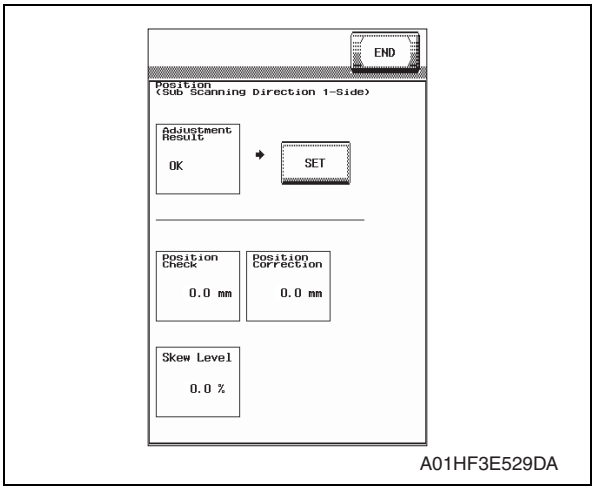


A01HF3E526DA



A01HF3C516DA

5. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
6. Press the Start key.



A01HF3E529DA

7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE

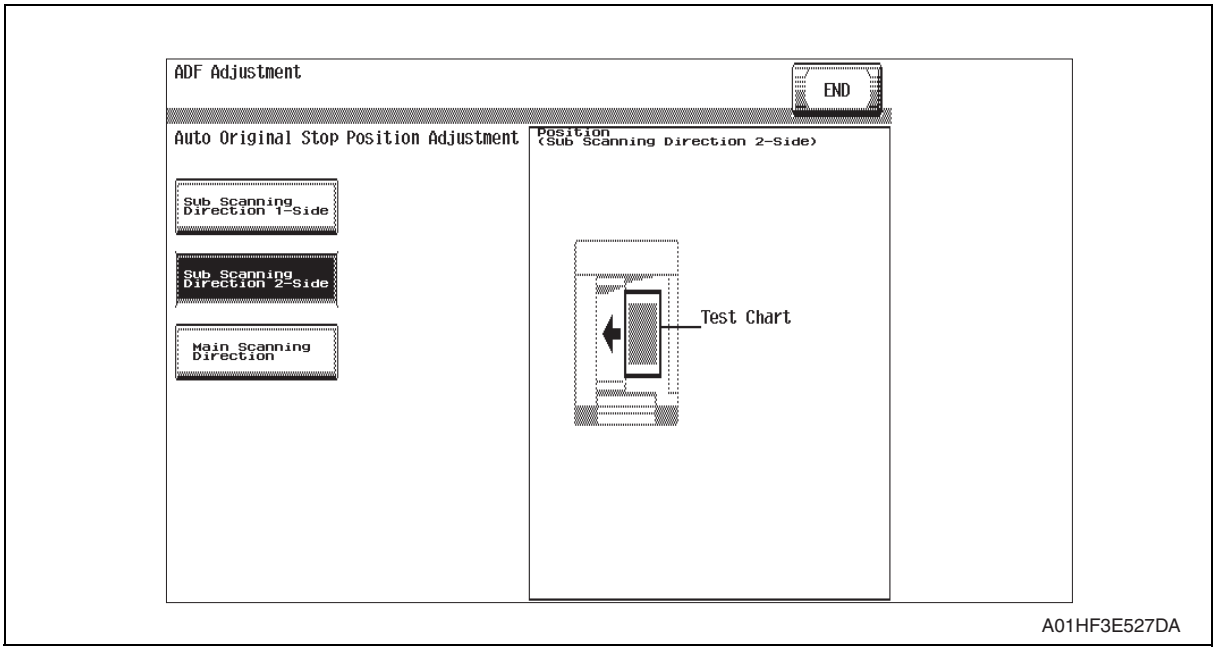
If the result is Unable:

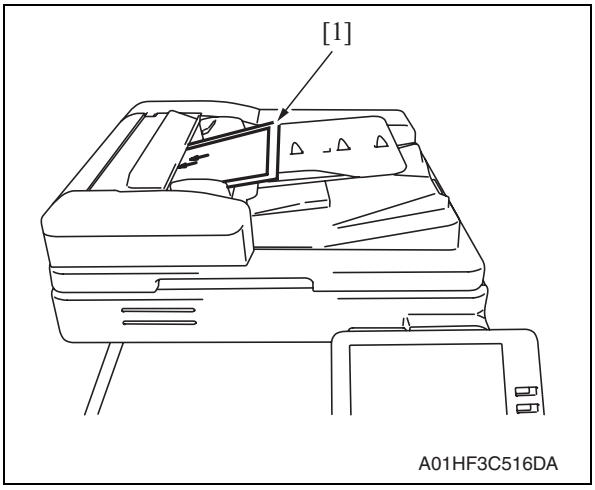
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**

See P.40

B. Auto adjust: Sub Scanning Direction 2-Side Stop Position

1. Call the Service Mode to the screen.
See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Sub Scanning Direction 2-Side].



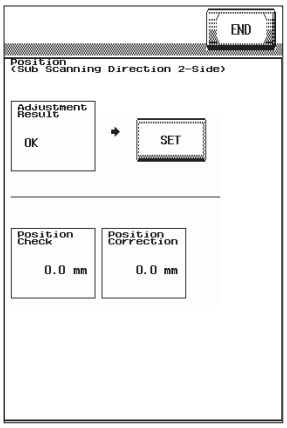


5. Place the chart furnished with the ADF [1] in the document feed tray.

NOTE

- **Make sure that the blank surface of the chart faces up.**

6. Press the Start key.



A01HF3E530DA

7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

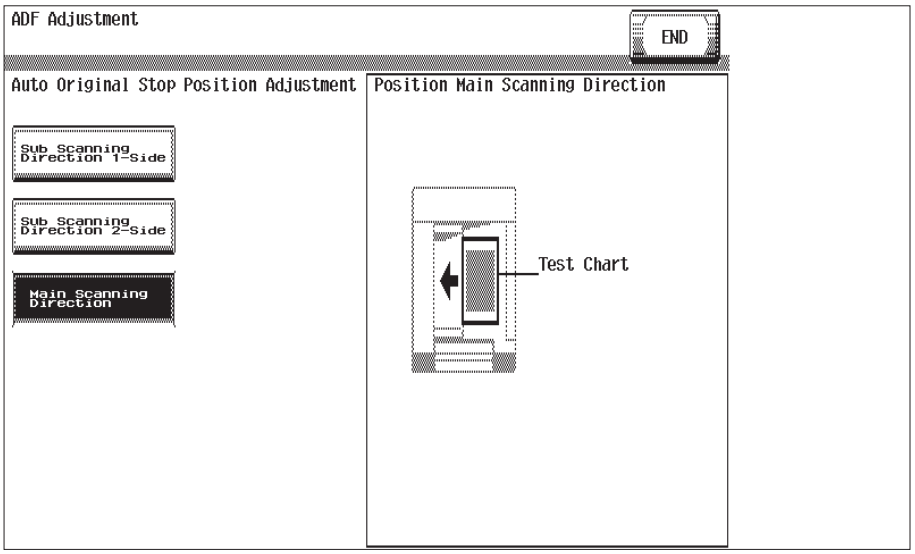
NOTE

If the result is Unable:

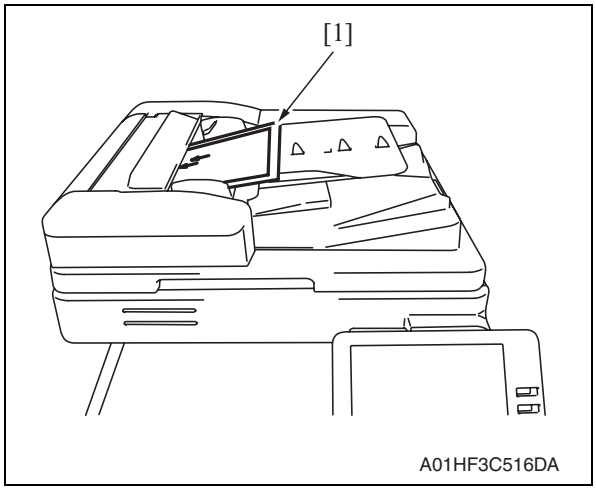
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  See P.40

C. Auto adjust: Main Scanning Direction Image scan start position

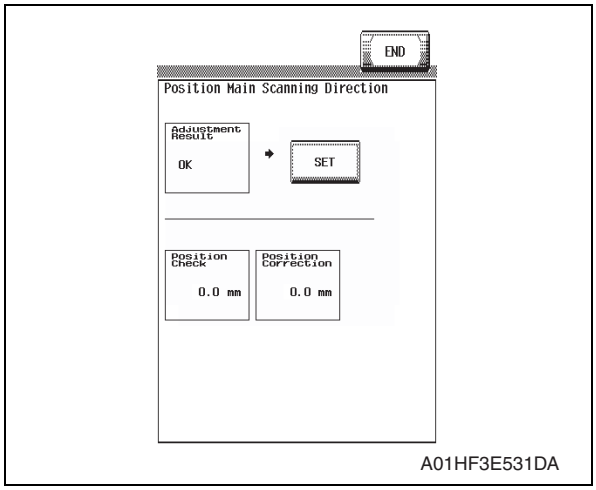
1. Call the Service Mode to the screen.
   See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Auto Stop Position Adjustment].
4. Touch [Main Scanning Direction].



A01HF3E528DA



5. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
6. Press the Start key.



7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

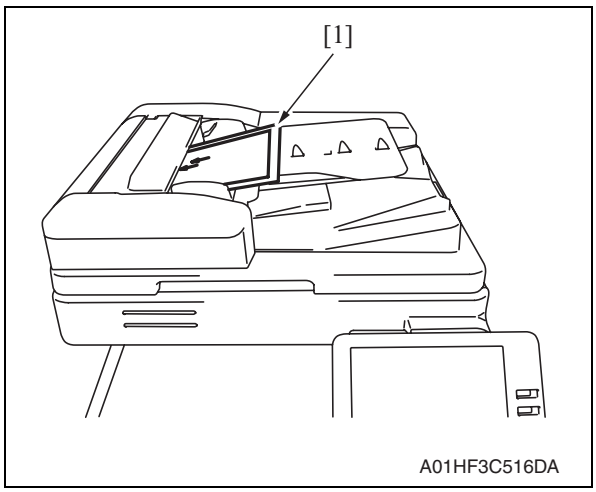
NOTE

If the result is Unable:

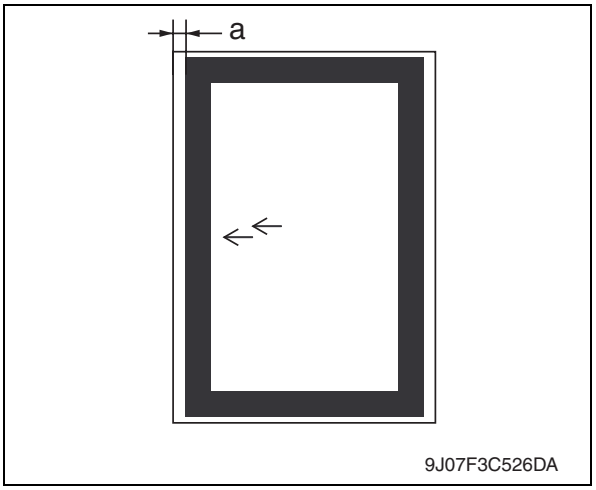
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**

See P.42

D. Manual adjust: Sub Scanning Direction 1-Sided/2-Sided document stop position adjustment



1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.



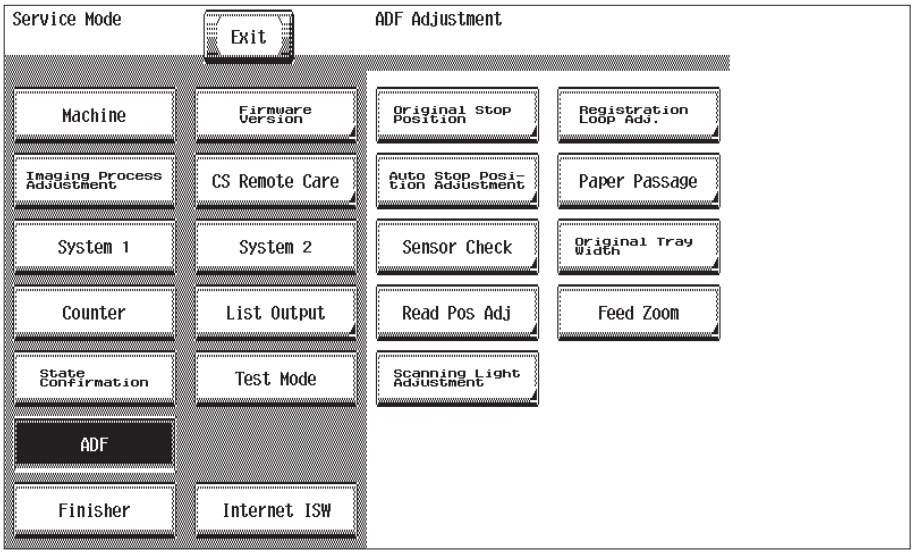
9J07F3C526DA

3. Check that the difference in the widths of a between the chart and the copy sample falls within the specified range.
   Specifications: 0 ± 2 mm

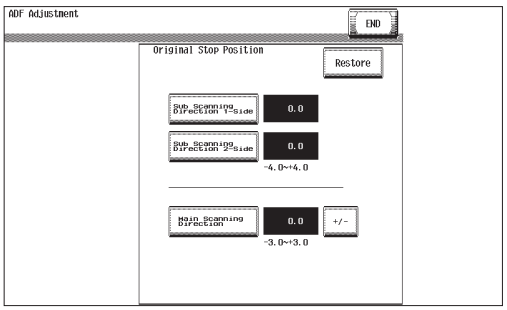
NOTE

- **In the same way place the chart with the blank side facing up in the document feed tray in the duplex mode and make a copy. Check the difference in the widths of a between the chart and the second sided surface of the copy sample.**

4. If the difference in the width of a falls outside the specified range, make the following adjustment.
5. Call the Service Mode to the screen.
   See P.338 of the main body service manual.
6. Touch [ADF].
7. Touch [Original Stop Position].



A01HF3E525DA



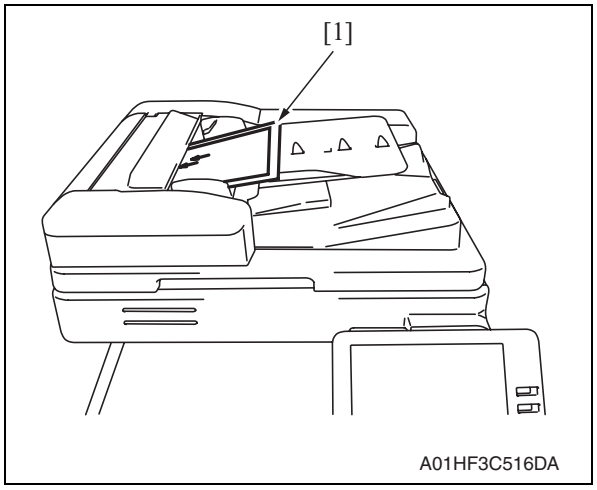
A01HF3E532DA

8. Touch [Sub Scanning Direction 1-Side] or [Sub Scanning Direction 2-Side].
9. Enter the value from the ten-key pad. (Press the [+/-] key to change the +/- code.)

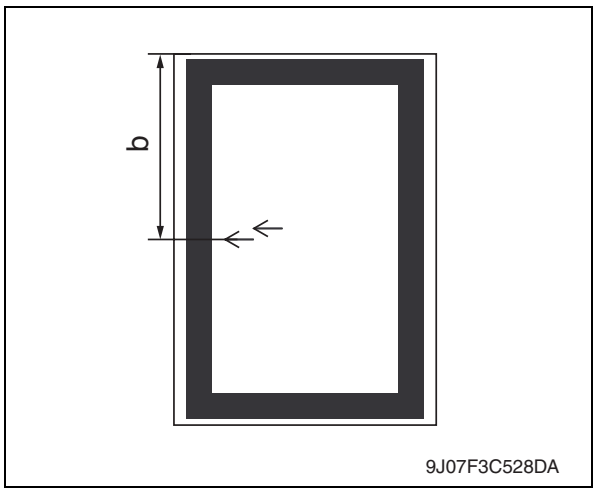
- Adjustable range: -4.0 mm to + 4.0 mm (in 1-mm increments)
- If the difference in the widths of a is greater than the specifications, enter the + value.
- If the difference in the widths of a is smaller than the specifications, enter the - value.

10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Make a copy of the chart again and check that the difference in the widths of a falls within the specified range.

E. Manual adjust: Main Scanning Direction stop position adjustment

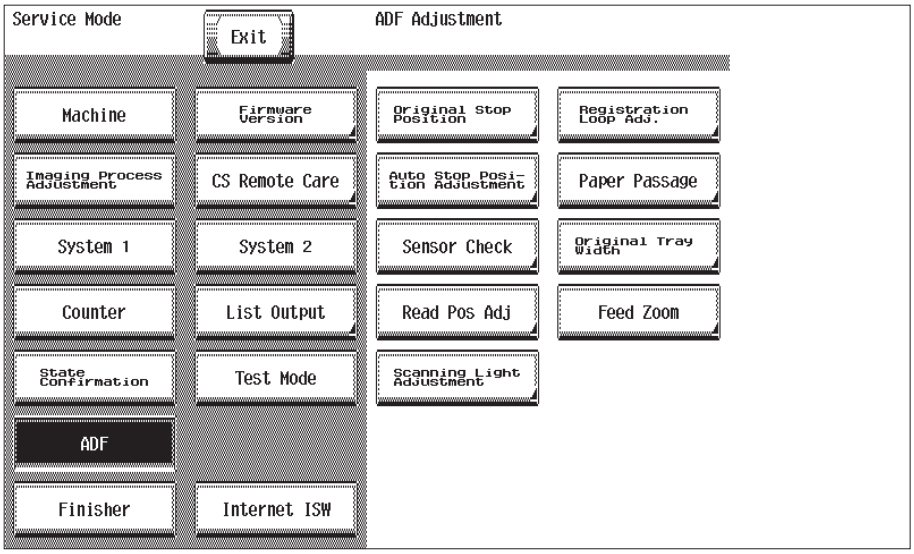


1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.

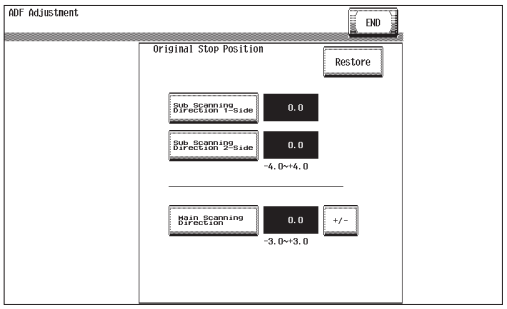


3. Check that the difference in the widths of b between the chart and the copy sample falls within the specified range.
Specifications: 0 ± 2 mm
4. If the difference in the width of b falls outside the specified range, make the following adjustment.

5. Call the Service Mode to the screen.
See P.338 of the main body service manual.
6. Touch [ADF].
7. Touch [Original Stop Position].



A01HF3E525DA



A01HF3E532DA

8. Touch [Main Scanning Direction].
9. Enter the value from the ten-key pad. (Press the [+/-] key to change the +/- code.)

- Adjustable range: -3.0 mm to + 3.0 mm (in 1-mm increments)
- If the difference in the widths of b is greater than the specifications, enter the + value.
- If the difference in the widths of b is smaller than the specifications, enter the - value.

10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Make a copy of the chart again and check that the difference in the widths of b falls within the specified range.

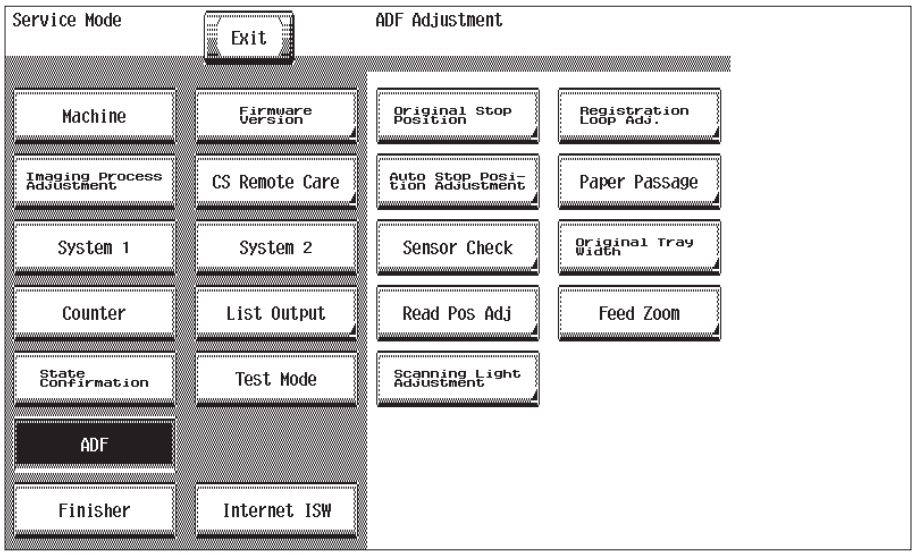
7.4 Original Tray Width

NOTE

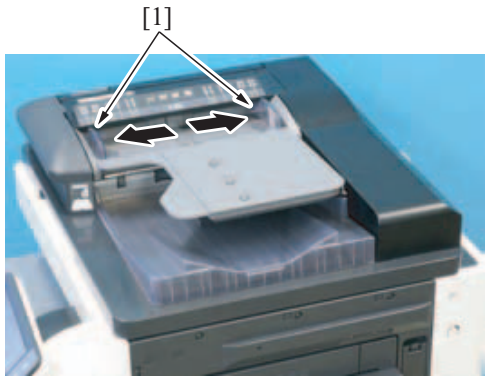
Make this adjustment after any of the following procedures has been performed.

- **When the document width detection variable resistor has been replaced.**
- **When the EEPROM has been replaced.**

1. Call the Service Mode to the screen.
See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Original Tray Width].

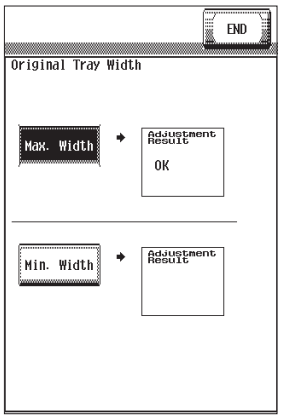


A01HF3E525DA



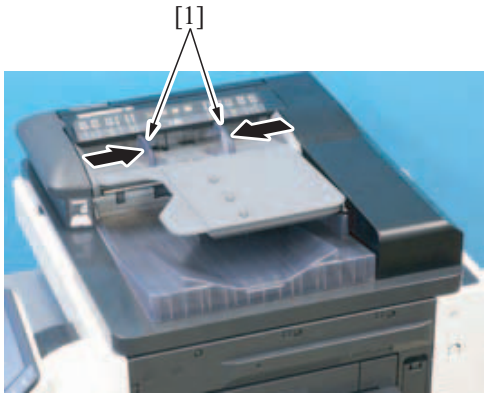
A01HF3C001DA

4. Widen the width across the edge guides [1] by sliding them to the “A3” position.



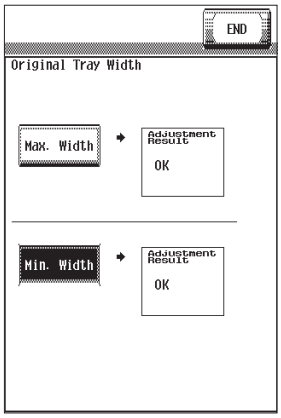
A01HF3E534DA

5. Touch [Max. Width].
6. Press the Start key.
7. OK is displayed when the adjustment has been completed.



A01HF3C002DA

8. Narrow the width across the edge guides [1] by sliding them to the “B6” position.



A01HF3E535DA

9. Touch [Min. Width].
10. Press the Start key.
11. OK is displayed when the adjustment has been completed.
12. Touch [END].

13. Touch [Exit] on the Service Mode screen.
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

* If the result is NG:

- Possible causes includes failure of the document width detection variable resistor, wrong wiring to the volume and failure of the DFCB.

7.5 Read Pos Adj

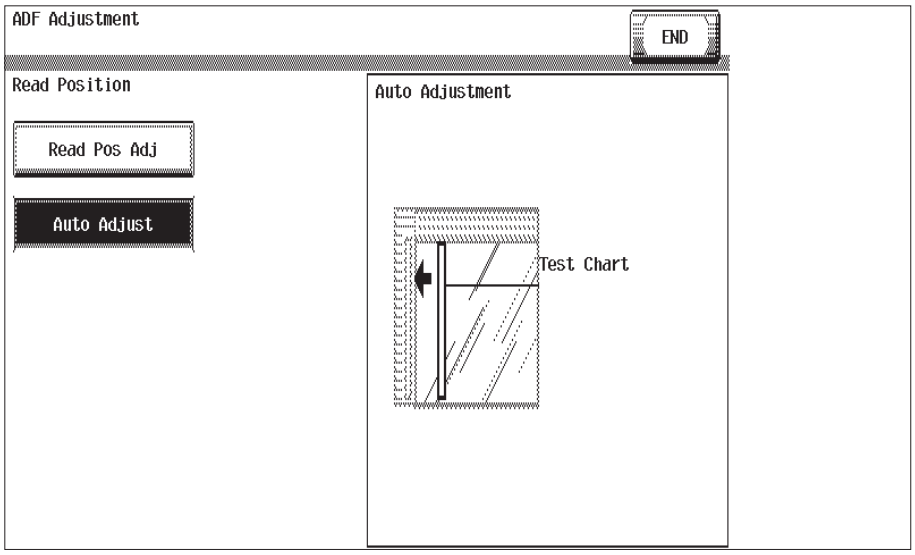
NOTE

Make this adjustment after any of the following procedures has been performed.

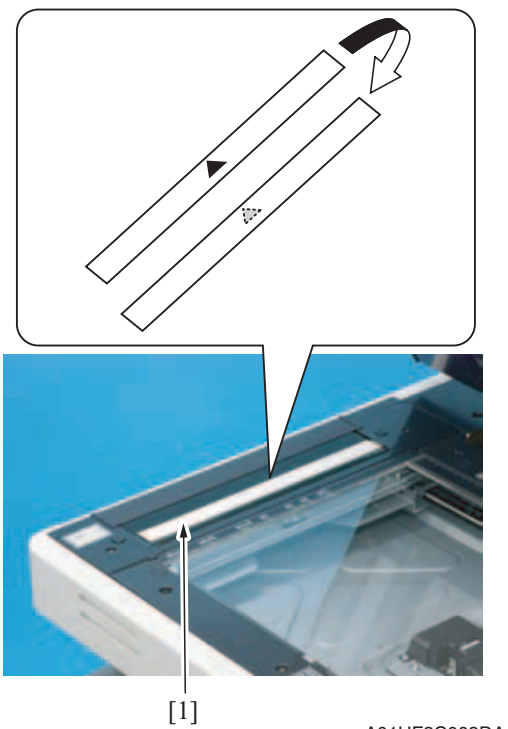
- **When the first/second carriage, the scanner wire, the scanner assy, the original glass moving unit, and/or the glass step sheet have been replaced.**

A. Auto adjust

1. Call the Service Mode to the screen.
   See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Read Pos Adj].
4. Touch [Auto Adjust].



A01HF3E536DA

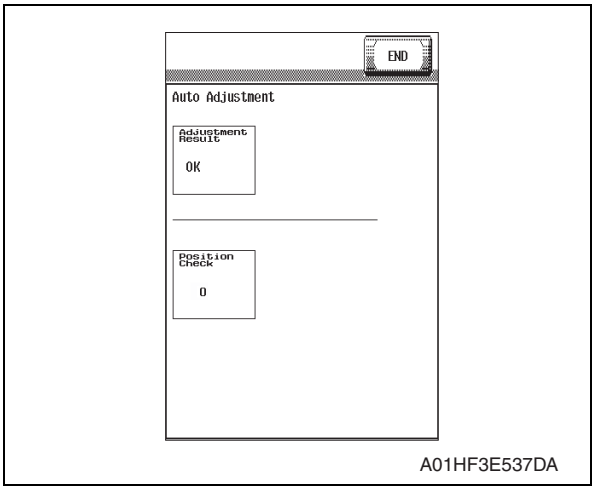


A01HF3C003DA

5. Open the ADF.
6. Place the ADF reading chart [1] so that a triangular mark may become the original glass side (downward) and the pointed tip of the triangle points toward the black sheet on the left side.
7. Press the Start key.

NOTE

- **Be sure that the ADF reading chart is in position.**
- **Keep the automatic document feeder open while making the adjustment.**



A01HF3E537DA

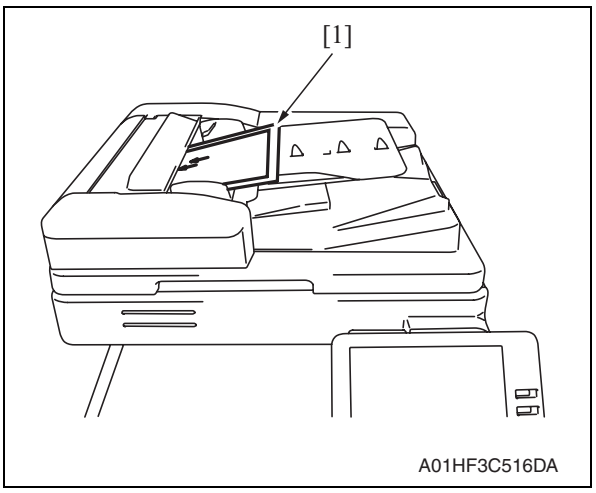
8. Make sure that the result is OK.
9. Touch [END].
10. Touch [Exit] on the Service Mode screen.
11. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE

If the result is Unable:

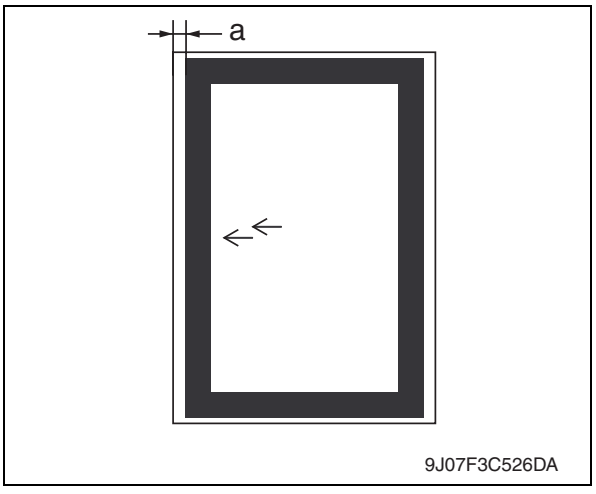
- **Check that the chart is in the correct place.**
- **Make the manual adjustment on the [Read Pos Adj] screen.**
  See P.47

B. Manual adjust: Read Pos Adj



A01HF3C516DA

1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.

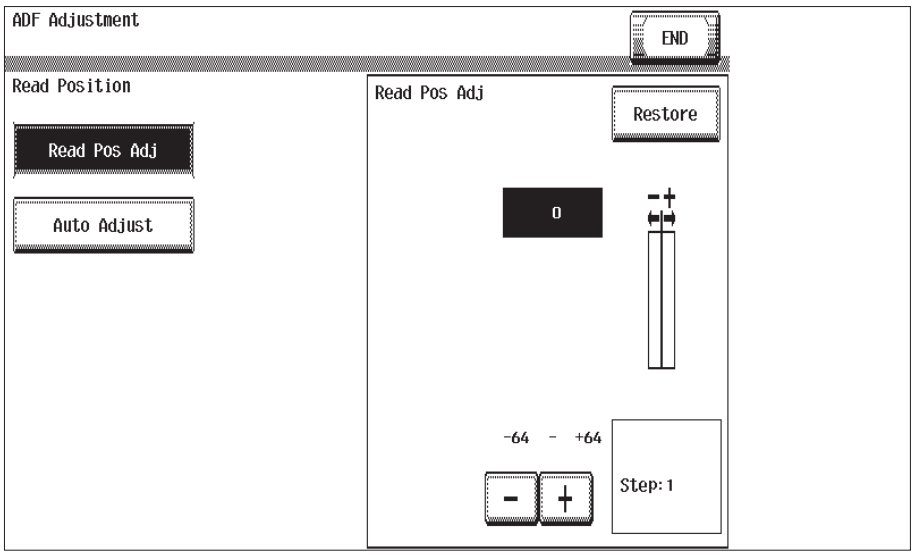


9J07F3C526DA

3. Check that the difference in the widths of a between the chart and the copy sample falls within the specified range.
   Specifications: 0 ± 1.0 mm
4. If the difference in the width of a falls outside the specified range, make the following adjustment.

5. Call the Service Mode to the screen.
   See P.338 of the main body service manual.
6. Touch [ADF].

7. Touch [Read Pos Adj].



A01HF3E538DA

8. Enter the value using the [-]/[+] keys.

- If the difference in the widths of a is greater than the specifications, enter the - value.
- If the difference in the widths of a is smaller than the specifications, enter the + value.

9. Touch [END].

10. Touch [Exit] on the Service Mode screen.

11. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

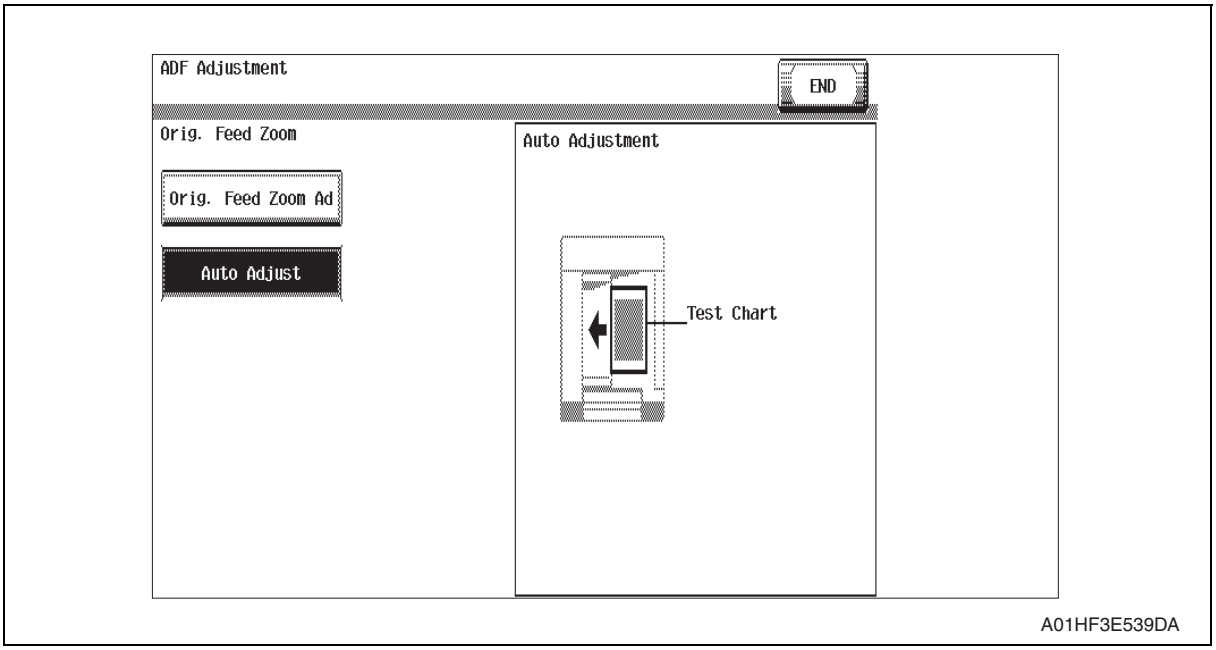
12. Make a copy of the chart again and check that the difference in the widths of a falls within the specified range.

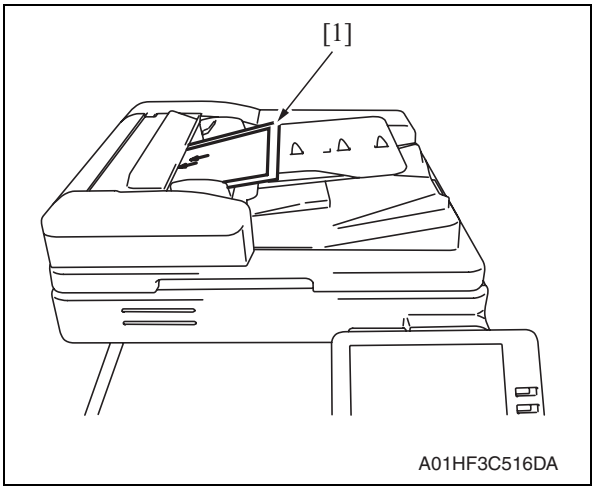
7.6 Feed Zoom

- Adjustment of the feed zoom is made automatically and manually (by entering numbers). The following adjustment is made in the Service Mode.

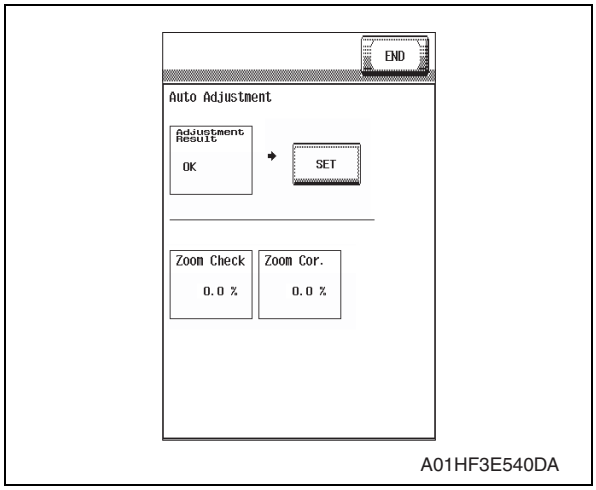
A. Auto adjust

1. Call the Service Mode to the screen.
See P.338 of the main body service manual.
2. Touch [ADF].
3. Touch [Feed Zoom].
4. Touch [Auto Adjust].





5. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
6. Press the Start key.

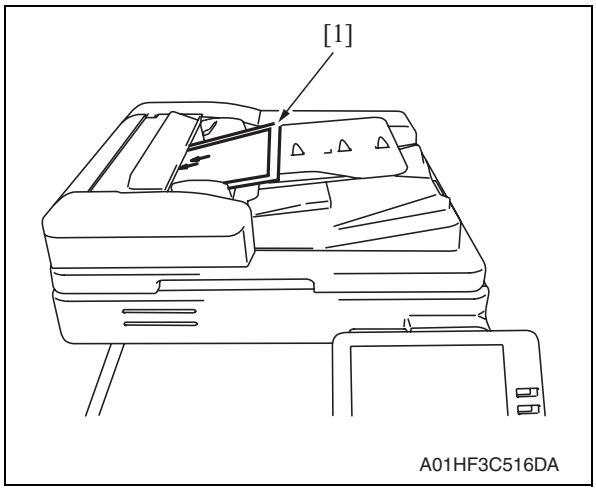


A01HF3E540DA

7. Make sure that result is OK. Then, touch [SET].
8. Touch [END].

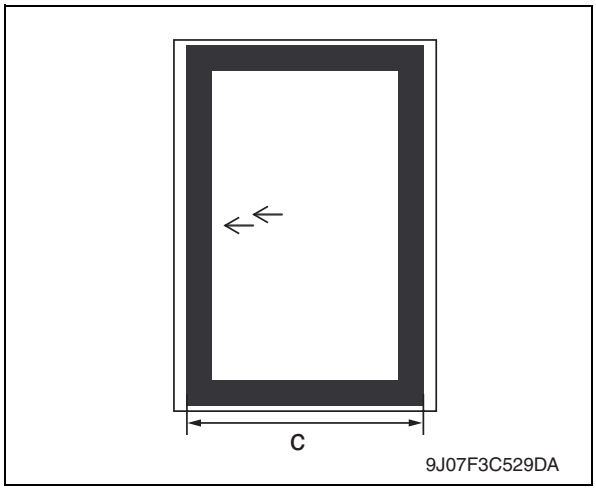
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

B. Manual adjust: Orig. Feed Zoom Adjustment



A01HF3C516DA

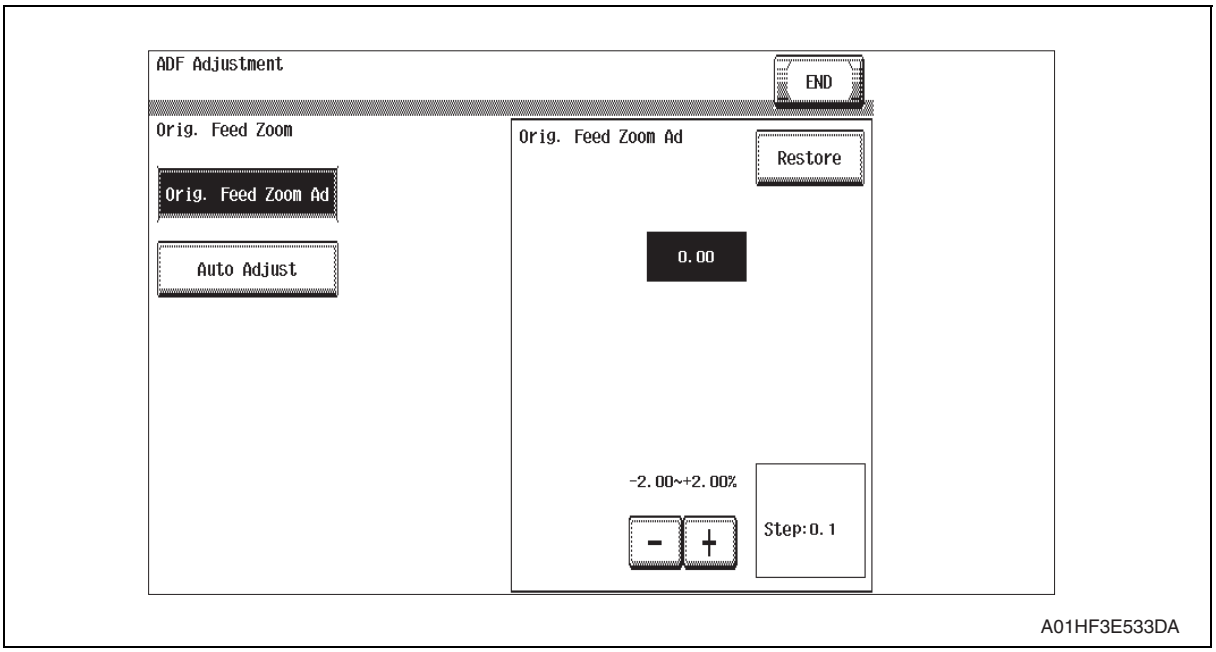
1. Place the chart [1] in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.



9J07F3C529DA

3. Check that the difference in the widths of c between the chart and the copy sample falls within the specified range.
Specifications: 0 ± 1.0 mm
4. If the difference in the width of c falls outside the specified range, make the following adjustment.

5. Call the Service Mode to the screen.
See P.338 of the main body service manual.
6. Touch [ADF].
7. Touch [Feed Zoom].
8. Touch [Orig. Feed Zoom Ad].



9. Enter the value using the [-]/[+] keys.

- If the difference in the widths of c is greater than the specifications, enter the - value.
- If the difference in the widths of c is smaller than the specifications, enter the + value.

10. Touch [END].
11. Touch [Exit] on the Service Mode screen.
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Make a copy of the chart again and check that the difference in the widths of a falls within the specified range.

Blank Page

Troubleshooting

8. Jam display

8.1 Initial check items

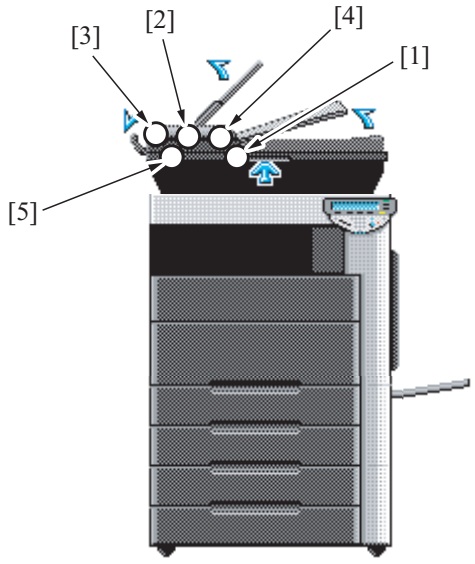
- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

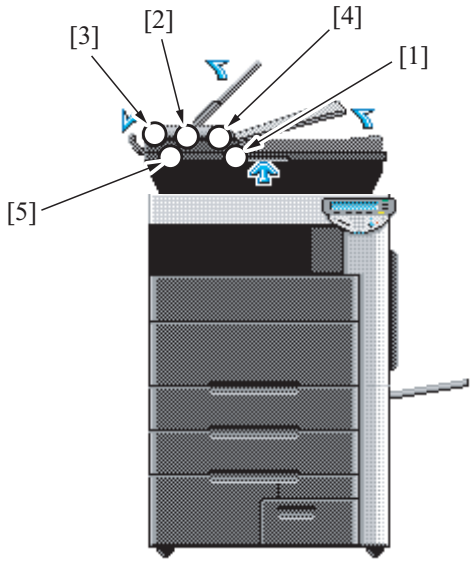
8.2 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main unit.

d-Color MF350 / MF250 / MF201Plus



d-Color MF550 / MF450

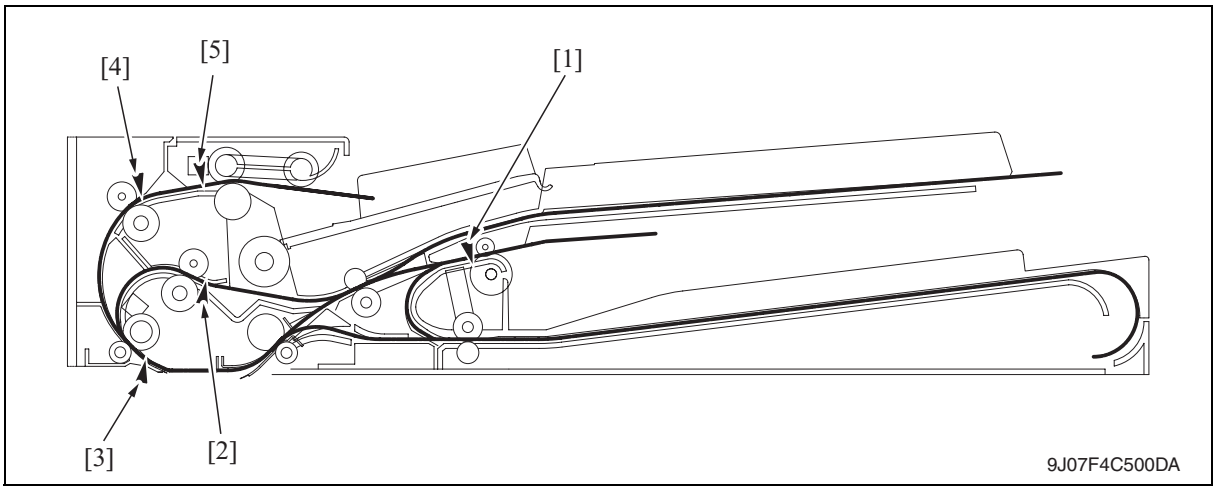


Display	Code	Jam type	Misfeed access location	Action
[1]	6601	Turnover section misfeed	Transportation cover	P.55
[2]	6602	Paper feed section misfeed		P.55
[3]	6603	Transport section misfeed		P.56
[4]	6604	Paper exit section misfeed		P.57
[5]	6605	Image reading section misfeed		P.58
[1][2][3][4][5]	6606	Original feeding interval misfeed		P.59
[1][2][3][4][5]	6607	Remaining paper misfeed		P.59

8.2.1 Misfeed display resetting procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

8.3 Sensor layout



[1]	Exit sensor	PS5	[4]	Registration sensor	PS3
[2]	Reverse registration sensor	PS8	[5]	After separate sensor	PS4
[3]	Before read sensor	PS9			

8.4 Solution for d-Color MF350 / MF250 / MF201Plus

8.4.1 Turnover section misfeed

A. Detection timing

Type	Description
Detection of misfeed at turnover section	The before read sensor (PS9) is not turned ON after a lapse of a given time after the reverse registration motion is performed.
	The reverse registration sensor (PS8) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned OFF.
Detection of paper left in turnover section	The reverse registration sensor (PS8) is not turned OFF after a lapse of a given time after the reverse registration motion is performed.

B. Action

Relevant electrical parts	
Switchback roller pressure/retraction motor (M5) Before read sensor (PS9) Reverse registration sensor (PS8)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O check, sensor check	DFCB PJ14-8 (ON)	DF-611 C-5
3	PS8 I/O check, sensor check	DFCB PJ12-2 (ON)	DF-611 I-3
4	M5 operation check	REYB PJ3-7 to 8	DF-611 K to L-9
5	DFCB replacement	—	—

8.4.2 Paper feed section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper feed section	The after separate sensor (PS4) is not turned ON after a lapse of a given time after the take-up motor (M2) is turned ON.

B. Action

Relevant electrical parts	
Take-up motor (M2) After separate sensor (PS4)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS4 I/O check, sensor check	DFCB PJ11-6 (ON)	DF-611 C-4 to 5
3	M2 operation check	DFCB PJ8-5 to 10	DF-611 I-6
4	DFCB replacement	—	—

8.4.3 Transport section misfeed

A. Detection timing

Type	Description
Detection of misfeed at transport section	The registration sensor (PS3) is not turned ON after a lapse of a given time after the after separate sensor (PS4) is turned ON.
	The before read sensor (PS9) is not turned ON after a lapse of a given time after the registration sensor (PS3) is turned ON.
Detection of paper left in transport section	The after separate sensor (PS4) is not turn OFF after a lapse of a given time after the after separate sensor (PS4) is turned ON.
	The registration sensor (PS3) is not turned OFF after a lapse of given time after the after separate sensor (PS4) is turned OFF.

B. Action

Relevant electrical parts	
Take-up motor (M2) Registration sensor (PS3) After separate sensor (PS4) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Adjust the height of the guide support for the original glass moving unit. See P.457 of the main body service manual.	—	—
3	PS3 I/O check, sensor check	DFCB PJ10-11 (ON)	DF-611 C-3
4	PS4 I/O check, sensor check	DFCB PJ11-6 (ON)	DF-611 C-4 to 5
5	PS9 I/O check, sensor check	DFCB PJ14-8 (ON)	DF-611 C-5 to 6
6	M2 operation check	DFCB PJ8-5 to 10	DF-611 I-6
7	DFCB replacement	—	—

8.4.4 Paper exit section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper exit section	The exit sensor (PS5) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned ON.
	• The exit sensor (PS5) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned OFF. • The exit sensor (PS5) is not turned OFF after a lapse of a given time after the turnover and paper exit motion is performed.
Detection of paper left in paper exit section	The exit sensor (PS5) is not turned OFF after a lapse of a given time after the before read sensor (PS9) is turned OFF.

B. Action

Relevant electrical parts	
Exit motor (M3) Before read sensor (PS9) Exit sensor (PS5)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O check, sensor check	DFCB PJ14-8 (ON)	DF-611 C-5 to 6
3	PS5 I/O check, sensor check	DFCB PJ3-3 (ON)	DF-611 I-6
4	M3 operation check	DFCB PJ8-1 to 4	DF-611 I-6
5	DFCB replacement	—	—

8.4.5 Image reading section misfeed

A. Detection timing

Type	Description
Detection of paper left in image reading section	The before read sensor (PS9) is not turned OFF after a lapse of a given time after the registration sensor (PS3) is turned OFF.
	The before read sensor (PS9) is not turned OFF after a lapse of a given time after the reverse registration sensor (PS8) is turned OFF.

B. Action

Relevant electrical parts	
Reading motor (M1) Reading roller pressure/retraction motor (M4) Registration sensor (PS3) Reverse registration sensor (PS8) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Make the adjustment of original stop position. See P.36	—	—
3	PS3 I/O check, sensor check	DFCB PJ10-11 (ON)	DF-611 C-3
4	PS8 I/O check, sensor check	DFCB PJ12-2 (ON)	DF-611 I-3
5	PS9 I/O check, sensor check	DFCB PJ14-8 (ON)	DF-611 C-5 to 6
6	M1 operation check	DFCB PJ9-1 to 3	DF-611 I-7
7	M4 operation check	DFCB PJ6-4 to 5	DF-611 I-4 to 5
8	DFCB replacement	—	—

8.4.6 Original feeding interval misfeed

A. Detection timing

Type	Description
Original feeding interval misfeed	The before read sensor (PS9) is turned ON earlier than a given time after the before read sensor (PS9) is turned OFF during original transportation.

Relevant electrical parts	
Take-up motor (M2) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O check, sensor check	DFCB PJ14-8 (ON)	DF-611 C-5 to 6
3	M4 operation check	DFCB PJ8-5 to 10	DF-611 I-6
4	DFCB replacement	—	—

8.4.7 Remaining paper misfeed

A. Detection timing

Type	Description
Remaining paper misfeed	Due to a remaining sheet of paper that has not been detected by sensors, before the start of a job, a sensor detects the sheet at an unexpected timing.

B. Action

Relevant electrical parts	
Registration sensor (PS3) After separate sensor (PS4) Exit sensor (PS5) Reverse registration sensor (PS8) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Remove the remaining paper.	—	—
2	Initial check items	—	—
3	PS3 I/O check, sensor check	DFCB PJ10-11 (ON)	DF-611 C-3
4	PS4 I/O check, sensor check	DFCB PJ11-6 (ON)	DF-611 C-4 to 5
5	PS5 I/O check, sensor check	DFCB PJ3-3 (ON)	DF-611 I-6
6	PS8 I/O check, sensor check	DFCB PJ12-2 (ON)	DF-611 I-3
7	PS9 I/O check, sensor check	DFCB PJ14-8 (ON)	DF-611 C-5 to 6
8	DFCB replacement	—	—

8.5 Solution for d-Color MF550 / MF450

8.5.1 Turnover section misfeed

A. Detection timing

Type	Description
Detection of misfeed at turnover section	The before read sensor (PS9) is not turned ON after a lapse of a given time after the reverse regist motion is performed.
	The reverse regist sensor (PS8) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned OFF.
Detection of paper left in turnover section	The reverse regist sensor (PS8) is not turned OFF after a lapse of a given time after the reverse regist motion is performed.

B. Action

Relevant electrical parts	
Switchback roller pressure/retraction motor (M5) Before read sensor (PS9) Reverse regist sensor (PS8)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611 C-5
3	PS8 I/O, sensor check	DFCB PJ12DFCB-2 (ON)	DF-611 I-2
4	M5 operation check	REYB PJ3REYB-7 to 8	DF-611 K to L-10
5	DFCB replacement	—	—

8.5.2 Paper feed section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper feed section	The after separate sensor (PS4) is not turned ON after a lapse of a given time after the take-up motor (M2) is turned ON.

B. Action

Relevant electrical parts	
Take-up motor (M2) After separate sensor (PS4)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS4 I/O, sensor check	DFCB PJ11DFCB-6 (ON)	DF-611 C-4
3	M2 operation check	DFCB PJ8DFCB-5 to 10	DF-611 I-6
4	DFCB replacement	—	—

8.5.3 Transport section misfeed

A. Detection timing

Type	Description
Detection of misfeed at transport section	The regist sensor (PS3) is not turned ON after a lapse of a given time after the after separate sensor (PS4) is turned ON.
	The before read sensor (PS9) is not turned ON after a lapse of a given time after the regist sensor (PS3) is turned ON.
Detection of paper left in transport section	The after separate sensor (PS4) is not turn OFF after a lapse of a given time after the after separate sensor (PS4) is turned ON.
	The regist sensor (PS3) is not turned OFF after a lapse of given time after the after separate sensor (PS4) is turned OFF.

B. Action

Relevant electrical parts	
Take-up motor (M2) Registration sensor (PS3) After separate sensor (PS4) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Adjust the height of the guide support for the original glass moving unit. See P.566 of the main body service manual.	—	—
3	PS3 I/O, sensor check	DFCB PJ10DFCB-11 (ON)	DF-611 C-2 to 3
4	PS4 I/O, sensor check	DFCB PJ11DFCB-6 (ON)	DF-611 C-4
5	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611 C-5
7	M2 operation check	DFCB PJ8DFCB-5 to 10	DF-611 I-6
8	DFCB replacement	—	—

8.5.4 Paper exit section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper exit section	The exit sensor (PS5) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned ON.
	• The exit sensor (PS5) is not turned ON after a lapse of a given time after the before read sensor (PS9) is turned OFF. • The exit sensor (PS5) is not turned OFF after a lapse of a given time after the turnover and paper exit motion is performed.
Detection of paper left in paper exit section	The exit sensor (PS5) is not turned OFF after a lapse of a given time after the before read sensor (PS9) is turned OFF.

B. Action

Relevant electrical parts	
Exit motor (M3) Before read sensor (PS9) Exit sensor (PS5)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611 C-5
3	PS5 I/O, sensor check	DFCB PJ3DFCB-3 (ON)	DF-611 I-5 to 6
4	M3 operation check	DFCB PJ8DFCB-1 to 4	DF-611 I-6
5	DFCB replacement	—	—

8.5.5 Image reading section misfeed

A. Detection timing

Type	Description
Detection of paper left in image reading section	The before read sensor (PS9) is not turned OFF after a lapse of a given time after the regist sensor (PS3) is turned OFF.
	The before read sensor (PS9) is not turned OFF after a lapse of a given time after the reverse regist sensor (PS8) is turned OFF.

B. Action

Relevant electrical parts	
Reading motor (M1) Reading roller pressure/retraction motor (M4) Regist sensor (PS3) Reverse regist sensor (PS8) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	Make the adjustment of original stop position. P.36	—	—
3	PS3 I/O, sensor check	DFCB PJ10DFCB-11 (ON)	DF-611 C-2 to 3
4	PS8 I/O, sensor check	DFCB PJ12DFCB-2 (ON)	DF-611 I-2
5	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611 C-5
6	M1 operation check	DFCB PJ9DFCB-1 to 3	<DF-611> DF-611 I-7
7	M4 operation check	DFCB PJ6DFCB-4 to 5	<DF-611> DF-611 I-3
8	DFCB replacement	—	—

8.5.6 Original feeding interval misfeed

A. Detection timing

Type	Description
Original feeding interval misfeed	The before read sensor (PS9) is turned ON earlier than a given time after the before read sensor (PS9) is turned OFF during original transportation.

Relevant electrical parts	
Take-up motor (M2) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611 C-5
3	M4 operation check	DFCB PJ8DFCB-5 to 10	DF-611 I-6
4	DFCB replacement	—	—

8.5.7 Remaining paper misfeed

A. Detection timing

Type	Description
Remaining paper misfeed	Due to a remaining sheet of paper that has not been detected by sensors, before the start of a job, a sensor detects the sheet at an unexpected timing.

B. Action

Relevant electrical parts	
Regist sensor (PS3) After separate sensor (PS4) Exit sensor (PS5) Reverse regist sensor (PS8) Before read sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Remove the remaining paper.	—	—
2	Initial check items	—	—
3	PS3 I/O, sensor check	DFCB PJ10DFCB-11 (ON)	DF-611 C-2 to 3
4	PS4 I/O, sensor check	DFCB PJ11DFCB-6 (ON)	DF-611 C-4
5	PS5 I/O, sensor check	DFCB PJ3DFCB-3 (ON)	DF-611 I-5 to 6
6	PS8 I/O, sensor check	DFCB PJ12DFCB-2 (ON)	DF-611 I-2
7	PS9 I/O, sensor check	DFCB PJ14DFCB-8 (ON)	DF-611 C-5
8	DFCB replacement	—	—

9. Trouble code

9.1 Trouble code list

- The main unit's cpu performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Description	Detection timing	Rank
C8101	Pressure/retraction mechanism failure before image reading	• During a pressure motion being performed, the read roller sensor (PS6) output does not change from H to L. • During a retraction motion being performed, the read roller sensor (PS6) output does not change from L to H.	B
C8102	Pressure/retraction mechanism failure at the turnover section	• During a pressure motion being performed, the reverse roller sensor (PS7) output does not change from H to L. • During a retraction motion being performed, the reverse roller sensor (PS7) output does not change from L to H.	B
C8103	Lift up mechanism failure	• The lift up upper sensor (PS16) is not turned ON after a lapse of a given time after the lift-up motor (M6) moves up (is turned forward). • The lift up lower sensor (PS15) is not turned ON after a lapse of a given time after the lift-up motor (M6) goes down (is turned backward).	B
C8104	Original glass travel failure	• The glass home sensor (PS203) output does not change from H to L after a lapse of a given time while the original glass moving motor (M202) is working. • The glass home sensor (PS203) output does not change from L to H after a lapse of a given time while the original glass moving motor (M202) is working.	B
C8302	Cooling fan failure	• The lock signal continues to detect H during a given time while the cooling fan (FM1) is spinning • The lock signal continues to detect L during a given time while the cooling fan (FM1) is during halts.	B
CC156	ADF ROM malfunction	• Upgrade of the firmware has not been successful.	B
CC165	Incorrect ROM content	• When the power is turned ON, DF control board or firmware error is detected.	B

9.2 Solution for d-Color MF350 / MF250 / MF201Plus

9.2.1 C8101: Pressure/retraction mechanism failure before image reading

Relevant electrical parts	
Reading roller pressure/retraction motor (M4) Read roller sensor (PS6)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M4 for proper drive coupling, and correct as necessary.	—	—
3	M4 operation check	DFCB PJ6-4 to 5	DF-611 I-4 to 5
4	PS6 I/O check, sensor check	DFCB PJ6-3 (ON)	DF-611 I-5
5	DFCB replacement	—	—

9.2.2 C8102: Pressure/retraction mechanism failure at the turnover section

Relevant electrical parts	
Switchback roller pressure/retraction motor (M5) Reverse roller sensor (PS7)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M5 for proper drive coupling, and correct as necessary.	—	—
3	M5 operation check	REYB PJ3-7 to 8	DF-611 K to L-9
4	PS7 I/O check, sensor check	REYB PJ3-3 (ON)	DF-611 K to L-10
5	DFCB replacement	—	—

9.2.3 C8103: Lift up mechanism failure

Relevant electrical parts	
Lift-up motor (M6) Lift up lower sensor (PS16) Lift up upper sensor (PS15)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M6 for proper drive coupling, and correct as necessary.	—	—
3	M6 operation check	REYB PJ6-1 to 2	DF-611 K to L-11
4	PS16 I/O check, sensor check	DFCB PJ11-3 (ON)	DF-611 C-5
5	PS15 I/O check, sensor check	REYB PJ3-6 (ON)	DF-611 K to L-10
6	DFCB replacement	—	—

9.2.4 C8104: Original glass travel failure

Relevant electrical parts	
Original glass moving unit Original glass moving motor (M202)	Original glass position control board (OGPCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M202 for proper drive coupling, and correct as necessary.	—	—
3	Original glass moving unit replacement	—	—
4	OGPCB replacement	—	—

9.2.5 C8302: Cooling fan failure

Relevant electrical parts	
Cooling fan (FM1)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the connector of FM1 for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM1 operation check	DFCB PJ7-1 (ON) DFCB PJ7-3 (LOCK)	DF-611 I-7
4	DFCB replacement	—	—

9.2.6 CC156: ADF ROM malfunction

Relevant electrical parts	
DF control board (DFCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	DFCB replacement	—	—

9.2.7 Incorrect ROM content

Relevant electrical parts	
DF control board (DFCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Rewrite firmware using the compact flash card.	—	—
2	DFCB replacement	—	—

9.3 Solution for d-Color MF550/ MF450

9.3.1 C8101: Pressure/retraction mechanism failure before image reading

Relevant electrical parts	
Reading roller pressure/retraction motor (M4) Read roller sensor (PS6)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M4 for proper drive coupling, and correct as necessary.	—	—
3	M4 operation check	DFCB PJ6DFCB-4 to 5	<DF-611> DF-611 I-3
4	PS6 I/O, sensor check	DFCB PJ6DFCB-3 (ON)	<DF-611> DF-611 I-4
5	DFCB replacement	—	—

9.3.2 C8102: Pressure/retraction mechanism failure at the turnover section

Relevant electrical parts	
Switchback roller pressure/retraction motor (M5) Reverse roller sensor (PS7)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M5 for proper drive coupling, and correct as necessary.	—	—
3	M5 operation check	REYB PJ3REYB-7 to 8	DF-611 K to L-10
4	PS7 I/O, sensor check	REYB PJ3REYB-3 (ON)	DF-611 K to L-11
5	DFCB replacement	—	—

9.3.3 C8103: Lift up mechanism failure

Relevant electrical parts	
Lift-up motor (M6) Lift up lower sensor (PS16) Lift up upper sensor (PS15)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M6 for proper drive coupling, and correct as necessary.	—	—
3	M6 operation check	REYB PJ6REYB-1 to 2	DF-611 K to L-12
4	PS16 I/O, sensor check	DFCB PJ11DFCB-3 (ON)	DF-611 C-4 to 5
5	PS15 I/O, sensor check	REYB PJ3REYBB-6 (ON)	DF-611 K to L-11
6	DFCB replacement	—	—

9.3.4 C8104: Original glass travel failure

Relevant electrical parts	
Original glass moving unit Original glass moving motor (M202)	Original glass position control board (OGPCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of M202 for proper drive coupling, and correct as necessary.	—	—
3	Original glass moving unit replacement	—	—
4	OGPCB replacement	—	—

9.3.5 C8302: Cooling fan failure

Relevant electrical parts	
Cooling fan (FM1)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the connector of FM1 for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM1 operation check	DFCB PJ7DFCB-1 (ON) DFCB PJ7DFCB-3 (LOCK)	DF-611 I-8
4	DFCB replacement	—	—

9.3.6 CC156: ADF ROM malfunction

Relevant electrical parts	
DF control board (DFCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	DFCB replacement	—	—

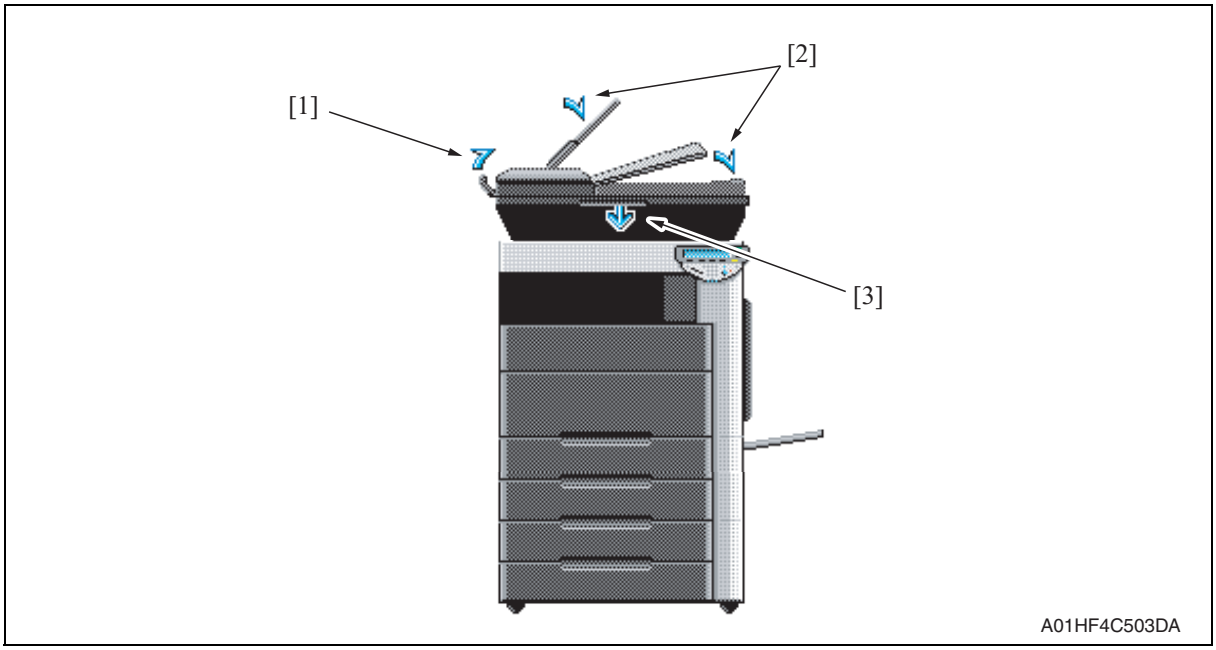
9.3.7 Incorrect ROM content

Relevant electrical parts	
DF control board (DFCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Rewrite firmware using the compact flash card.	—	—
2	DFCB replacement	—	—

10. Set error detection

- When the ADF or cover set error for some reason is detected, the panel of the main unit will have the following display.



<Panel display and detection timing for each>

Panel display	Description of error	Detection start	Detection timing
[1]	Transportation cover set error	When the main power switch turn ON.	Read open & close sensor (when light-blocked)
[2]	Document feed tray set error	When the main power switch turn ON.	Feed open & close sensor (when light-blocked)
[3]	ADF set error	When the document is set in the ADF	Original cover sensor (ON)

UPDATING STATUS

DATE	UPDATED PAGES	PAGES	CODE
10/2008	1ST EDITION	81	Y107582-9